This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

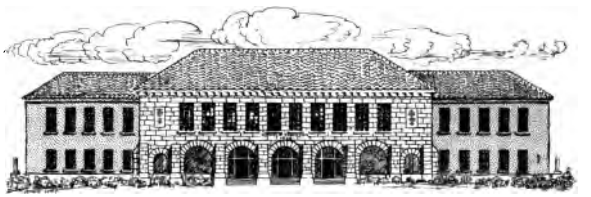
Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

TX 913.2 .D692 V.1 2
Dopp, Katharine Elizabeth,
Tree-dwellers : by Katherine Elizbeth Do
Stanford University Libraries
3 6105 04933 1056

THE TREE-DWELLERS

Tx
913.2
D692
v.1
cop.2

KATHARINE·E·DOPP



SCHOOL OF EDUCATION
LIBRARY

TEXTBOOK
COLLECTION

STANFORD UNIVERSITY
LIBRARIES

THE TREE-DWELLERS

Industrial and Social History Series

By KATHARINE ELIZABETH DOPP, Ph. D.
The Extension Division of the University of Chicago

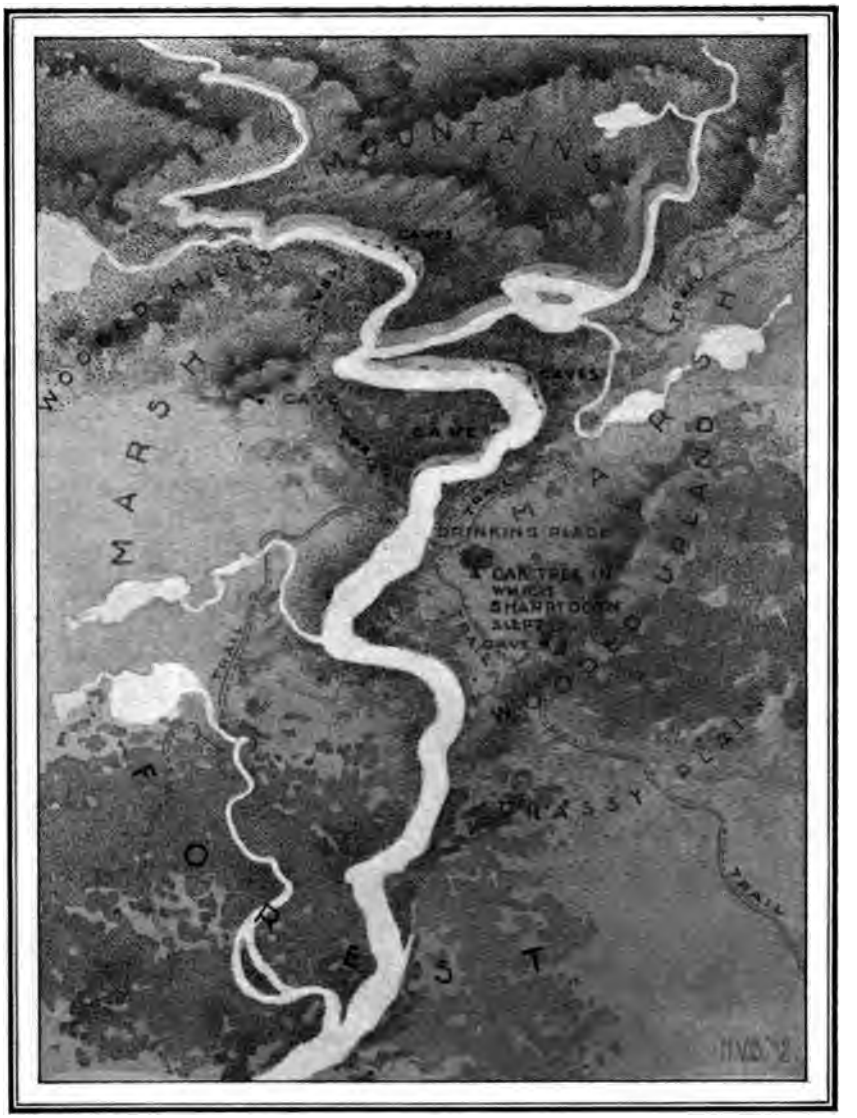
Book I. THE TREE-DWELLERS. THE AGE OF FEAR.
Illustrated with a map, 15 full-page and 60 text drawings in half-tone by HOWARD V. BROWN. Cloth. Square 12mo. 160 pages; -- cents.
For the primary grades.

Book II. THE EARLY CAVE-MEN. THE AGE OF COMBAT.
Illustrated with 75 drawings in half-tone by HOWARD V. BROWN. Cloth. Square 12mo. 175 pages; -- cents.
For the primary grades. (In press.)

Book III. THE LATER CAVE-MEN. THE AGE OF THE CHASE.
For the primary grades. (In preparation.)

Book IV. THE TENT-DWELLERS. THE EARLY FISHING MEN.
For the primary grades. (In preparation.)

Other volumes, dealing with the early development of pastoral and agricultural life, the age of metals, travel, trade, and transportation, will follow.



A map of the Tree-dwellers' country, showing the relative position of the geographical features referred to in this book.

THE TREE-DWELLERS

BY

KATHARINE ELIZABETH DOPP

Instructor In The Extension Division
of The
University of Chicago

RAND McNALLY & COMPANY

Chicago *New York* *London*

Copyright, 1903
By KATHARINE ELIZABETH DOPP
Entered at Stationers' Hall

C

The Rand-McNally Press
Chicago

LIBRARY
Leland Stanford, Jr.
UNIVERSITY

TO MY MOTHER

Janet Moyes Dopp

I DEDICATE THIS BOOK

72633

PREFACE

THE series, of which this is the first volume, is an attempt to meet a need that has been felt for several years by parents and physicians, as well as by teachers, supervisors, and others who are actively interested in educational and social progress. The need of practical activity, which for long ages constituted the entire education of mankind, is at last recognized by the elementary school. It has been introduced in many places and already results have been attained which demonstrate that it is possible to introduce practical activity in such a way as to afford the child a sound development — physically, intellectually, and morally — and at the same time equip him for efficient social service. The question that is perplexing educators at the present time is, therefore, not one regarding the value of practical activity, but rather one of ways and means by which practical activity can be harnessed to the educational work.

The discovery of the fact that steam is a force that can do work had to await the invention of machinery by means of which to apply the new force to industrial processes. The use of practical activity will likewise necessitate many changes in the educational machinery before its richest results are realized. Yet the conditions that attend the introduction of practical activity as a motive power in education are very different from those that attended the introduction of the use of steam. In the case of steam the problem was that of applying a new force to an old work. In the case of practical activity it is a question of restoring a factor which, from the earliest times until within the last two or three decades, has operated as a permanent educational force.

The situation that has recently deprived the child of the oppor-

tunity to participate in industrial processes is due, as is well known, to the rapid development of our industrial system. Since the removal of industrial processes from the home the public has awakened to the fact that the child is being deprived of one of the most potent educational influences, and efforts have already been made to restore the educational factor that was in danger of being lost. This is the significance of the educational movement at the present time.

As long as a simple organization of society prevailed, the school was not called upon to take up the practical work; but now society has become so complex that the use of practical activity is absolutely essential. Society to-day makes a greater demand than ever before upon each and all of its members for special skill and knowledge, as well as for breadth of view. These demands can be met only by such an improvement in educational facilities as corresponds to the increase in the social demand. Evidently the school must lay hold of all of the educational forces within its reach.

In the transitional movement it is not strange that new factors are being introduced without relation to the educational process as a whole. The isolation of manual training, sewing, and cooking from the physical, natural, and social sciences is justifiable only on the ground that the means of establishing more organic relations are not yet available. To continue such isolated activities after a way is found of harnessing them to the educational work is as foolish as to allow steam to expend itself in moving a locomotive up and down the tracks without regard to the destiny of the detached train.

This series is an attempt to facilitate the transitional movement in education which is now taking place by presenting educative materials in a form sufficiently flexible to be readily adapted to the needs of the school that has not yet been equipped for manual training, as well as to the needs of the one that has long recognized practical activity as an essential factor in its work. Since the experience of the race in industrial and social processes embodies,

better than any other experiences of mankind, those things which at the same time appeal to the whole nature of the child and furnish him the means of interpreting the complex processes about him, this experience has been made the groundwork of the present series.

In order to gain cumulative results of value in explaining our own institutions, the materials used have been selected from the life of Aryan peoples. That we are not yet in possession of all the facts regarding the life of the early Aryans is not considered a sufficient reason for withholding from the child those facts that we have when they can be adapted to his use. Information regarding the early stages of Aryan life is meager. Enough has been established, however, to enable us to mark out the main lines of progress through the hunting, the fishing, the pastoral, and the agricultural stages, as well as to present the chief problems that confronted man in taking the first steps in the use of metals, and in the establishment of trade. Upon these lines, marked out by the geologist, the paleontologist, the archæologist, and the anthropologist, the first numbers of this series are based.

A generalized view of the main steps in the early progress of the race, which it is thus possible to present, is all that is required for educational ends. Were it possible to present the subject in detail, it would be tedious and unprofitable to all save the specialist. To select from the monotony of the ages that which is most vital, to so present it as to enable the child to participate in the process by which the race has advanced, is a work more in keeping with the spirit of the age. To this end the presentation of the subject is made: First, by means of questions, which serve to develop the habit of making use of experience in new situations; second, by narrative, which is employed merely as a literary device for rendering the subject more available to the child; and third, by suggestions for practical activities that may be carried out in hours of work or play, in such a way as to direct into useful channels energy which when left undirected is apt to express itself in trivial if not

in anti-social forms. No part of a book is more significant to the child than the illustrations. In preparing the illustrations for this series as great pains have been taken to furnish the child with ideas that will guide him in his practical activities as to illustrate the text itself.

Mr. Howard V. Brown, the artist who executed the drawings, has been aided in his search for authentic originals by the late J. W. Powell, *director of the United States Bureau of Ethnology, Washington, D. C.;* by Frederick J. V. Skiff, *director of the Field Columbian Museum, Chicago,* and by the author. Ethnological collections and the best illustrative works on ethnological subjects scattered throughout the country have been carefully searched for material.

I wish to take this opportunity to express my gratitude to Professor Dewey for the suggestions he has given me with reference to this series, and to acknowledge that without the inspiration that has come through his teaching I should probably never have undertaken a work of this kind. Among the many friends to whom I am indebted for help and inspiration, I would mention especially, Professor W. I. Thomas and Professor Ella Flagg Young, *of the University of Chicago;* Superintendent F. A. Manny, *of the Ethical Culture Schools, New York City;* Mrs. Charlotte W. Williams, *of Chicago;* my sister, Miss Elspa M. Dopp, *of the State Normal School, St. Cloud, Minn.;* and Mr. W. W. Charters, *of the University of Chicago.* To the late Director J. W. Powell, *of the United States Bureau of Ethnology,* and to Director Frederick J. V. Skiff, *of the Field Columbian Museum, Chicago,* I am under obligations for courtesies extended which have enabled me to gain access to illustrative materials. For the practical proof that work of this kind is feasible, and that it supplies a genuine need in elementary education, I am indebted to the hearty coöperation of students and fellow-teachers of several states.

K. E. D.

August 1, 1903.

CONTENTS

PAGE

Dedication 7
Preface 8
Contents 12
Illustrations 13

THE TREE-DWELLERS

THE AGE OF FEAR

PAGE

A Story of Long Ago 15
Sharptooth 17
The Wooded Hills 20
Sharptooth's Excursions 23
Sharptooth and Her Baby 28
The First Weaver 31
What Happened When the Wild Cattle Went to the River . . . 35
How Sharptooth Spent the Night . 38
Sharptooth Goes to the River . . 43
What the Wild Hogs Did for Sharptooth 47
How the Wild Hogs Protected their Young 50
How the Tree-dwellers Taught their Children 53
Alone on the Wooded Hills . . . 56
How Bodo Found Wild Honey . . 59
Bodo Follows the Wild Horses . . 61
The Story of the Wild Horse . . . 66
More About the Wild Horse . . . 69

PAGE

How Bodo Learned to Make Tools and Weapons 72
Bodo's Hammer and Knife . . . 75
What Bodo and One-Ear Found in the Alders 81
How the Hyenas Hunted 85
Frightened by Fire 89
How People Got their First Homes 93
How the Tree-dwellers Formed a Clan 99
How the Women Made a Shelter . 102
How Sharptooth Made a Basket . 106
How Bodo Used Fire 112
How Bodo Saved One-Ear's Life . 116
How People Learned to Hunt Large Animals 119
Why People Began to Wear Ornaments 122
The Coming of the Musk Sheep . . 125
The Woolly Rhinoceros 128
How We Have Learned About the Tree-dwellers 130

Suggestions to Teachers 132
a. *Method* 134
b. *Typical Modes of Activity* 136
c. *Supplementary Facts* 142
d. *Animal Life* 142
e. *Special Suggestions* 147

ILLUSTRATIONS

FULL PAGE

	PAGE
A map of the Tree-dwellers' country	Frontispiece
"Many wild beasts lived then"	14
"Sharptooth was afraid of wild animals"	19
"She made a safe place for the baby to sleep"	32
"There were a great many wild cattle when the Tree-dwellers lived"	34
The upper part of the river valley	39
"Hippopotamuses were snorting and blowing"	41
"Bodo watched them wade through the shallow water"	62
"Sometimes Bodo threw stones"	73
"They crept up softly and peeped into the alders"	83
"Bodo stood and watched it a moment"	91
"They lived by the fire at the foot of a tree"	97
"They talked about the wild animals they had seen"	100
"So the women now tried to weave a shelter"	105
"They saw Bodo rush up to the cave-bear and wave a torch in his face"	117

TEXT

	PAGE
Tiger's head—vignette on title page	5
A Tree-dweller	17
The wooded hills	21
Acorns and wild roots	22
Sharptooth in the tree branches	24
Sharptooth watching the wild cattle	26
A lion	27
Sharptooth gathering berries	30
Wild cattle	36
A hyena	43
Sharptooth's baby's cradle in the tree	44
Cave wolves	45
A wild hog	48
Wild pigs	51
Bodo catches a pig	55
A bear	56
A boy in a tree hunting eggs	58
Bodo with the bird's eggs	59
Bodo running away from the bees	60
A herd of mammoths	63
A bison	64
A reptile and a wild horse	67
A wild horse	69
The stick Bodo used	74
Bodo cracks nuts	77
A chipped pebble	78
An antler	79
A big-nosed rhinoceros	86
The fight on the cliff	88
Basket-weaving showing four stages of construction	108, 109, 110, 111
Sabre-tooth	112
Bodo builds a fire	113
Bodo's club	114
Bodo catches a squirrel	115
A leader	120
A necklace of claws	122
How they wore the necklace	123
Musk sheep	125
A Tree-dweller	131
A lion	158

"Many wild beasts lived then"

THE TREE-DWELLERS

THE AGE OF FEAR

I.

A Story of Long Ago

This is a story of long ago.
It will tell you of the first people we know anything about.
It will tell you how they lived before they had fire.
It will tell you how they worked before they had tools.
Many wild beasts lived then.
They were fierce and strong.
All the people feared them.
The cave-bear could strike with his big paws.
The tiger could tear with his sharp teeth.

The rhinoceros could trample one under his feet.
Each animal knew how to do one thing well.
But the people could do a great many things.
They could remember, too, what had happened before.
They learned to profit by their mistakes.
You will learn how they became brave and strong.
You will learn how they used their bodies and minds.
They began the work we are doing to-day.
They took the first steps.
People who lived after them were able to do a little more.
The next people could do still more.
Many people have lived and worked since then.
The work they have done helps us to-day.
We have something to do, too.
We can do our part better if we know what others have done.

We can do it better if we learn to use our hands.
We can do it better if we learn to use our minds.
That is why we have this little book.

II.

THINGS TO THINK ABOUT

What do you need in order to live?
What do you think that the Tree-dwellers needed?

Sharptooth

Sharptooth was a Tree-dweller.
She lived a long, long time ago.
She did not have any home.
Nobody had a home then.
People wandered from place to place.

A Tree-dweller chasing a young rabbit

They had no shelter except the trees.
Each night Sharptooth slept in the branches.
Each day she hunted for something to eat.
Sometimes she was very hungry.
She had hard work to find enough food.
She could not go to a store to buy it.
There were no stores then.
She could not buy food of a farmer.
There were no farmers then.
All the plants were growing wild.
All the animals were wild, too.
Sharptooth was afraid of them.
That is why she climbed the trees.

THINGS TO DO

Go out where everything is growing wild and find a place where the Tree-dwellers might have lived.
Find as many wild foods as you can.
Notice what places have the best wild foods.
Find a place where the Tree-dwellers might have protected themselves from the wild beasts.
Find a picture of Sharptooth running away from a wild animal.
Tell a story about this picture.

"Sharptooth was afraid of wild animals"

III.

THINGS TO THINK ABOUT

Did you find a place where the Tree-dwellers might have lived?
What kind of a place was it?
Did you find any wild foods where the ground was covered with grass?
Do you think they could live on a grassy plain?
Did you find any wild foods where the trees were thick?
Do you think they could live in a dense forest?
Where did you find the best wild foods?
Could the sun get down to places where you found wild roots?
Do vegetables grow better in the shade or in the sunlight?
Are there as many wild foods here now as there used to be? Why not?
Do you think you could live on such foods as the Tree-dwellers ate?
Can you think of a name for the place where the Tree-dwellers lived?

The Wooded Hills

The Tree-dwellers needed a place where they could be safe from the wild animals.
So they lived among the tall trees.

They needed to be near fresh water.
So they lived by trees along the river.
They needed to be where they could find roots and berries.

"The wooded hills"

Down in the river valley most of the forests were dense.
The sun could not shine through the thick leaves of the trees.
There was not enough sunlight to make the roots and berries grow.
There were not many nuts and acorns on the trees.
So the Tree-dwellers could not live there.

Acorns

Out on the grassy plains there were no trees.
The Tree-dwellers could not live there.
Near the head of the river valley there were hills and uplands.
The forests there were not so dense.
The sun could shine through the open spaces.
Many roots and berries grew there.
On the wooded hills near the head of the valley was a good place for the Tree-dwellers to live.
They could be safe in the tall trees.
They could get fresh water from the river.
They could find nuts and acorns on the trees.
They could find roots and berries in the open spaces.

Wild roots were used for food

THINGS TO DO

Model in sand the hills and uplands near the head of a river valley.
Show where the trees grow.
Where would you look for the roots and berries?
Where would the cattle find grass?
What else would the cattle need?
Where would they find it?

IV.

THINGS TO THINK ABOUT

Do you think Sharptooth had ever been away from the wooded hills near the head of the river valley?
If she had gone into the dense forests, do you think she would have stayed there?
Would it have been safe for her to walk on the ground?
What way would have been safe at that time?
Do you think Sharptooth would dare to go out on the grassy plains?
Why did she like the wooded hills best?

Sharptooth's Excursions

Sharptooth knew every spot on the wooded hills.
But she seldom went to a strange place.

"She walked out upon a strong spreading branch"

One day, though, she took a long journey.
This is the way that it came about.
She found plenty of roots and ripe blueberries.
She ate until she was satisfied.
Then she began to play among the trees.
She walked out upon a strong spreading branch.

Then she grasped a tough branch just over her head.
She swung herself into a neighboring tree.
Then she walked out on another branch.
She swung herself into another tree.
She traveled in this way for a long time.
At last she came to a dense forest.
How dark and damp it seemed!
How still it was!
She stopped her play.
She began to feel tired and hungry; so she rested a while, and then searched for food.
She found few signs of roots or berries.
There were many trees, but nuts were scarce.
So she ate the bark from the tender twigs.
But she was not satisfied.
She missed the roots and berries.
She missed the bright sunshine.
She missed familiar sights and sounds.
So she soon went back to the wooded hills.
Another day Sharptooth went to the edge of a grassy plain.

There were many wild animals feeding there.
She hid in the tall green grass and watched
the wild cattle from her hiding-place.

"Sharptooth hid in the tall green grass"

She saw mammoths eating the tender grass.
There were smaller animals not far away.
A lion was creeping up through the grass.
Sharptooth saw him pounce upon the beasts.

The frightened creatures ran for their lives.
Sharptooth wished that she had not ventured so far.
She watched for a chance to get away.
As soon as she dared she crept to the trees.
Then she hurried back to the wooded hills.
She never forgot what she saw that day.

A lion

THINGS TO DO

Think of Sharptooth as she was playing among the trees. Draw the picture.
Think of what she saw when she was hiding in the tall grass. Draw the picture.
Show on your sand map where the dense forest was.
Show where the grassy plain was.
Cut a lion and a mammoth from paper.

V.

THINGS TO THINK ABOUT

Can you think why the Tree-dwellers did not live in families as we do?
Why did each one have to take care of himself?
Who took care of the babies then?
Do you know whether the baby Tree-dwellers could do anything for themselves?

Sharptooth and Her Baby

We have learned that the Tree-dwellers had no homes.
All the Tree-dwellers had a hard time to live, for they had not yet learned to help one another.
It took many long years to learn to do that.
But mothers have always taken care of their babies.
Sharptooth's mother had once taken care of her.
But Sharptooth soon learned to take care of herself.

Then she began to live as the other Tree-dwellers lived.
She lived by herself the greater part of the time.
She grew to be a strong young woman.
Then a baby came to live with her.
How proud she was of the little boy!
Wherever she went she took him with her, for there was nothing else for her to do.
There was no place where she dared to leave him, so the mother and baby were never apart.
Sometimes the baby clung to her waist.
Baby Tree-dwellers knew how to hold fast.
Sometimes Sharptooth tied a vine around her waist.
Then the baby clung to the vine.
Sometimes he sat on her shoulder and clung to her head or neck.
Sometimes he rode upon her back.
Sharptooth helped him all that she could, but she needed her hands for other work.

Sharptooth gathering berries

THINGS TO DO

Show how your mamma carries your baby brother or sister.

Show how Sharptooth carried her baby.

Which of the babies do you think has the better care?
How do you help to take care of the baby?
Draw a picture of a mother and baby.

VI.

THINGS TO THINK ABOUT

How many kinds of cradles have you seen?
What kind of a cradle does your baby brother or sister have?
What kind of a cradle do you think Sharptooth's baby had?
What kind of a lullaby would Sharptooth sing?
What lullaby can you sing?

The First Weaver

Sharptooth had climbed most of the trees on the wooded hills.
She had slept in many of them.
But she liked the old oak near the trail the best of all.
Its strong spreading branches were covered with vines.
Here was a place to lay the baby.
While he slept among the vines, she gathered wild foods.
But she never went far away, and she never stayed away long.
There were panthers and wild cats on the hills.
Sharptooth knew that they could climb the trees.
Many a time they had nearly caught her.
She was afraid that they would get the baby.
So she always stayed near him while he slept.

"She made a safe place for the baby to sleep"

When she stayed in a tree that had no vines,
there was no place to lay the baby.
So she wove the slender branches together.
She made a safe place for the baby to sleep.
She lulled him to sleep as he lay in her arms.
Then she gently laid him upon his bed.
She watched him a moment as he slept.
A moment more and she, too, was asleep.

THINGS TO DO

Think of Sharptooth as she was laying the baby down among the vine-covered branches. Draw the picture.
Find some vines or branches and make a cradle.

VII.

THINGS TO THINK ABOUT

There were a great many wild cattle when the Tree-dwellers lived.
They were not so gentle as our cattle.
They had wide-spreading horns.
The fierce flesh-eating animals were always lying in wait for them.
How could the wild cattle protect themselves from their enemies?

"There were a great many wild cattle when the Tree-dwellers lived"

Where would they stay during the day?
Where would they go at night?
Why did they stay in herds?
Where could they find water?
What kind of banks does a river have at the drinking-places?
Do you think the cattle would make paths to the drinking-places? How?

What Happened When the Wild Cattle Went to the River

The sun was just setting.
Sharptooth was getting ready for the night.
She was in the old oak tree.
The baby had gone to sleep.
As she put him down upon his bed she heard the mooing of the wild cattle.
She looked out upon the hills.
The wild cattle were coming down to the river to drink.
She watched the long line winding down the trail.
Other creatures were watching, too.
Wild animals were coming out of their dens.

A big bear passed close to Sharptooth's tree.
He had heard the mooing of the wild cattle.
Wolves were prowling about.
They, too, were watching the herd.

"They drank from the flowing stream"

The cattle reached the river.
They waded out.
They drank from the flowing stream.
They stood knee deep in the cool water.
At last the leader turned to go.
The others followed one by one.

But some of the weaker ones lingered behind.
They seemed tired.
A big wolf watched them from a thicket.
At length the cattle came out of the stream.
They walked slowly along the bank.
They passed close to the thicket.
The wolf sprang out from his hiding-place.
He seized the smallest creature.
The others dashed off through the under-brush.
They were too frightened to keep the path.
They lost their way.
Wolves and bears were lying in wait.
They fell upon the frightened cattle.
The herd was too far away to help.
So the poor creatures lost their lives.
But the wolves and bears had a feast.

THINGS TO DO

Model the wooded hills where the cattle fed by day.
Model the grassy uplands where they fed by night.
Show the trail that the cattle made.
Make the banks at the drinking-place.
Make the thickets and show where the wolf hid.

VIII.

THINGS TO THINK ABOUT

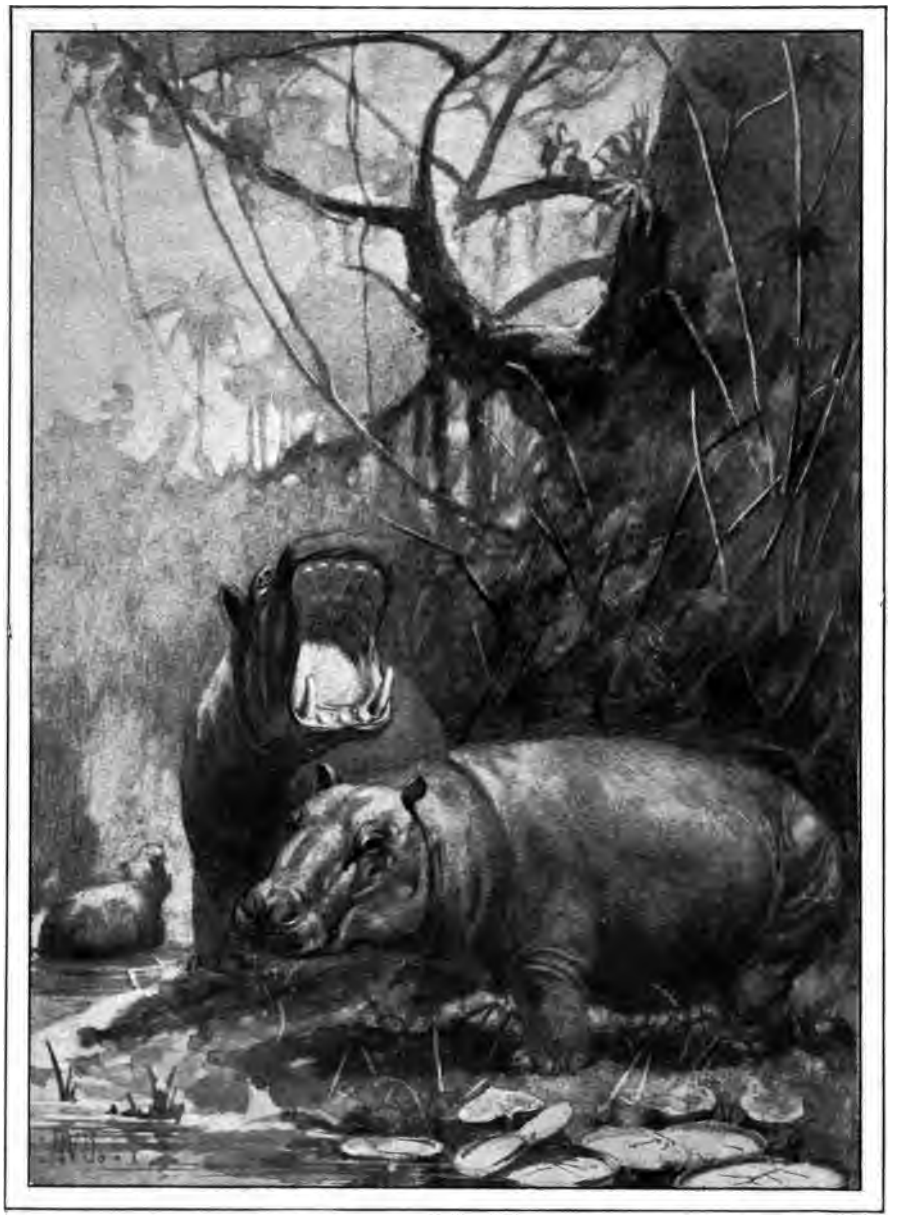
Why did the wild cattle feed on the grassy uplands at night instead of during the day?
Where did they spend the day?
When do the flesh-eating animals sleep?
When do they hunt?
Can they live without flesh to eat?
Do you know whether they kill more than they need to eat?

How Sharptooth Spent the Night

It was now almost dark.
The wild cattle had reached the grassy upland.
They were feeding on the fresh grass.
Sharptooth had watched them out of sight, and now she was getting sleepy.
She could see nothing but dim shadows, but she could hear all sorts of sounds.
Wild animals were coming out of their dens.
Most of them had slept during the day, but now they were wide awake.

The upper part of the river valley

Hippopotamuses were snorting and blowing.
They were splashing in the water.
They were crashing through the underbrush along the banks.
Straight-tusked elephants were trumpeting and bellowing.
Lions were roaring.
The hunted animals were seeking a place of refuge.
Sharptooth was used to these sights and sounds.
She felt safe in the old oak tree.
She tied herself to a strong branch and soon was fast asleep.
She slept all through the long night.
Many of the wild beasts, too, were soon asleep.
Some of the hunted creatures found places of refuge.
Some beasts of prey were soon satisfied.
Then they stole back to their dens and slept.
But all of the wild animals did not fare so well.



"Hippopotamuses were snorting and blowing"

Not all of the hunted creatures found places of refuge.

Not all of the beasts of prey found food.

Some beasts of prey hunted all through the night and were still hungry when morning came.

THINGS TO DO

Cut a hippopotamus or a straight-tusked elephant from paper.

Tell how little boys and girls that you know are taken care of at night.

Tell how the Tree-dwellers took care of their children.

IX.

THINGS TO THINK ABOUT

At the drinking-place the river banks were low.
In many other places they were high and steep.
In some places there was a solid wall of rock.
In others the rocks were broken and worn.
In some places there were deep holes in the rocks.
We call these holes caves.
They were made long ago.
Can you think how they were made?
Can you think what the caves were used for?

Sharptooth Goes to the River

Before sunrise the next morning Sharptooth awoke.

She opened her eyes and looked out upon the hills.

"Hyenas were stealing down to their caves"

She heard animals moving about.

A large cave-bear was passing by toward his cave.

Hyenas, too, were stealing down to their caves.

Many flesh-eating animals were slinking away to their dens.

They were tired with their night's work.

Most of them had eaten until they were satisfied, and now they were ready to sleep through the day.

The wild cattle were coming back to the hills.

The baby awoke.

Sharptooth played with him a moment.

Then she put him under her arm and slipped down the tree.

She started down toward the river, but she did not go by the trail.

"Sharptooth played with him a moment"

"The animals were ready to sleep through the day"

It was safer to walk in the shadow of the tall trees.

Once she suddenly grasped a branch of a tree and swung herself up and looked about.

She had heard a rustling in the underbrush.
Long ago she had learned what such sounds meant.
So she swung on the branches until she reached the river.
She listened a moment in the tree.
Then she slipped down and ran to the water's edge.
She dipped up the water with her hand.
She drank some, and then gave some to the baby.
He was so pleased that he laughed aloud.
As quick as a flash, Sharptooth sprang for the tree.
She was afraid the hyenas were in the thickets.
She was afraid they had heard the baby laugh.
She talked to the baby in a strange language.
She made queer clucking sounds.
After that he was always quiet when they went to the river.
He must have understood what she said.

THINGS TO DO

If there is a cave near where you live, visit it.
Model in sand some high river banks with caves.
Show where Sharptooth went to drink, and where the hyenas were hiding.
Show how she gave water to the baby.
Show how she sprang for the tree when the baby laughed.
Draw a picture of Sharptooth and the baby.
Ask some one to read you the first story in Kipling's Second Jungle Book.

X.

THINGS TO THINK ABOUT

Where do hogs live to-day? How are they taken care of?
How do you think the wild hogs found food?
Do you think the Tree-dwellers could learn anything by watching the wild hogs?
What have you learned from animals?

What the Wild Hogs Did for Sharptooth

The sun had now been up for some time.
Sharptooth was getting hungry.
She picked a handful of wild plums from the thicket, but she wanted something more.

She kept on down the hill.
The wild hogs were rooting under the oak trees.
She wondered what they found there, so she stepped near enough to see.

A wild hog

They were eating something round and black.
She watched them for a long time.
As soon as they started off toward the marsh, Sharptooth ran down to the trees.
She saw the loose earth that the hogs had rooted up.
Then she began to dig where it had not been loosened.

She had nothing to dig with except her hands, but she was not afraid to dig with them.
She soon felt something that was round and hard.
She dug it up and looked at it.
It was a truffle.
It was black and warty on the outside.
She bit off a piece.
It was white inside.
She tasted it and found that it was good, so she dug another and ate it.
She wondered how the wild hogs knew that the truffles were there.
Perhaps you can tell.
Perhaps you have heard stories of how hogs dig truffles in France to-day.

THINGS TO DO

Collect five or six vegetables or fruits.
Blindfold some one and let him smell of one of the vegetables and guess what it is.
When he guesses right, blindfold some one else.
When you have a chance, dig a root with your hands, then dig one with a sharp stick.
Which way is the easier?

XI.

THINGS TO THINK ABOUT

Can you think how the wild hogs protected themselves?
Do hogs have tusks now?
Can you think why the wild hogs were not as fat as our hogs?

How the Wild Hogs Protected their Young

Sharptooth watched the wild hogs every day.
She learned many things from them.
They were peaceable creatures when not disturbed.
They lived on fruits, wild nuts, and roots.
When they had eaten all they wanted, they went down to the river or lake.
They hid in the reedy marshes.
They hid in the thorny thickets.
But they always kept together.
Sharptooth watched them from a tree.
There were tiny little pigs with long, light stripes.
They kept close to their mothers.

There were larger pigs that had lost their stripes.
They, too, stayed with their mothers.
There were wild boars about three years old.

"There were larger pigs that had lost their stripes"

They did not go far from their mothers.
They were not strong enough yet to protect themselves.
There were many full-grown hogs.
There were fierce boars with long tusks.
Sharptooth watched them eating acorns.
A pack of hyenas was watching, too.
They were hiding in the underbrush.
They were lying in wait for the smaller pigs.
But the old hogs scented danger.
They gathered the little pigs together.

The stronger ones stood in a circle around them.
Their white tusks glistened in the sunlight.
They were ready to fight for their young.
The hyenas were afraid.
They sneaked away in the underbrush.
The little pigs were safe.

THINGS TO DO

Show how the wild hogs protected the little pigs.
Show how the hyenas came up and sneaked away.
Cut some wild hogs from paper.

XII.

THINGS TO THINK ABOUT

Do you think that the Tree-dwellers had schools?
What did their children need to know?
How would they teach them?
Have you ever seen a cat teaching her kittens?
Have you ever tried to teach a baby?
What can you teach the baby to do?
What do you need to have done for you?
What can you do to help yourself?
What can you do to help others?

How the Tree-dwellers Taught their Children

Sharptooth's baby had grown to be a large boy.
He was now about seven years old.
His mother called him Bodo.
Bodo did not have to wash his face.
He did not have to wear any clothes.
He had no clothes to wear.
He did not have to go to school.
There were no schools then.
But he learned a great many things.
His mother was his first teacher.
She taught him where to find the ripe berries.
She taught him where to dig for roots.
She taught him how to catch birds and squirrels.
She taught him how to hide from the wild animals.
She taught him to keep so still that he might be taken for a hump on a log.
She taught him all that she knew.

Bodo learned his lessons well.
He always obeyed his mother.
Sometimes he saw other Tree-dwellers.
He had seen them snatch food from his mother's hand.
He had seen them help her, too.
But usually each Tree-dweller took care of himself.
Bodo was learning to take care of himself.
He was beginning to feel that he was almost a man.
One day he caught a pig without any help.
The next day his mother let him hunt all alone.
She knew now that he could find his own food.
After that Bodo always hunted alone.
Sometimes he saw his mother, but she no longer found food for him.
She had another baby to care for, so Bodo knew that he must take care of himself.
When the Tree-dwellers lived nobody ever thought of taking care of a child who was able to find his own food.

"Bodo caught a pig without any help"

THINGS TO DO

Show how you teach your baby brother or sister to walk. Draw the picture.

Show how Sharptooth taught Bodo.

Tell a story of how Bodo caught a little wild pig that had wandered away from its mother.

XIII.

THINGS TO THINK ABOUT

What do you think Bodo would do when he left his mother?
Who would teach him now?
Do you think that he could find birds' eggs?
What do you think he would do with them?
Do you know any one who has a collection of birds' eggs?
What would happen to the birds if we all made collections?
How do birds help us?
How do we help them?
How can we coax them to live near us?

"The bear started up and growled"

Alone on the Wooded Hills

Although Bodo was glad to take care of himself, he often wished that his mother were near.

Sometimes he called to her.

When she heard his call she would answer him.
Then he would swing on the branches until he found her.
But sometimes she was too far away to hear.
Then he listened in vain for her answering call.
Sometimes it was hard work to keep back the tears.
Once he sobbed so loud that a sleepy bear heard him.
The bear started up and began to growl.
Bodo hid in the branches of a tall tree.
He stayed there until the bear went away.
Then he was very hungry.
As he started out to find something to eat, he heard a rustling among the branches.
He listened.
Bodo hoped that his mother was coming.
But it was only a boy who was hunting birds' eggs.
Bodo watched him climb among the branches.

"It was only a boy who was hunting birds' eggs"

He watched him suck the eggs that he found.

How he wished that he might find some eggs!

He began to look for some.

In a moment he saw a bird's nest above him.

He climbed up the branch and peeped into the nest.

There were three beautiful eggs.

His eyes danced with joy.

He sucked the eggs.

Then he smacked his lips and hunted for more.

THINGS TO DO

Show what the bear did when he heard Bodo sobbing.
Draw the picture of the bear.
Model a bird's nest in clay.
Ask some one to read you the story of a little baby who lived with some wolves. It is in the Jungle Book.

"There were three beautiful eggs"

XIV.

THINGS TO THINK ABOUT

Do you think that Bodo ever had any bread and sugar?
Did he ever have any candy?
What could he find that was sweet?
How do bees make their honey?
Where do they store it?

How Bodo Found Wild Honey

Bodo never had any candy.
Nobody knew how to make it.
But he knew where to find the wild honey.
He had found some one day in a hollow tree.

He learned to track a bee home to its tree.
When he found a bee-tree he robbed the swarm.
Sometimes the bees stung him, but he was used to getting hurt.

"The bees stung him"

THINGS TO DO

Watch the bees as they gather honey from the flowers.
What flowers do they visit?
Do all bees look alike? Do all bees do the same kind of work?
Draw a picture that will show how they work among the flowers.
See if you can find some wild honey.

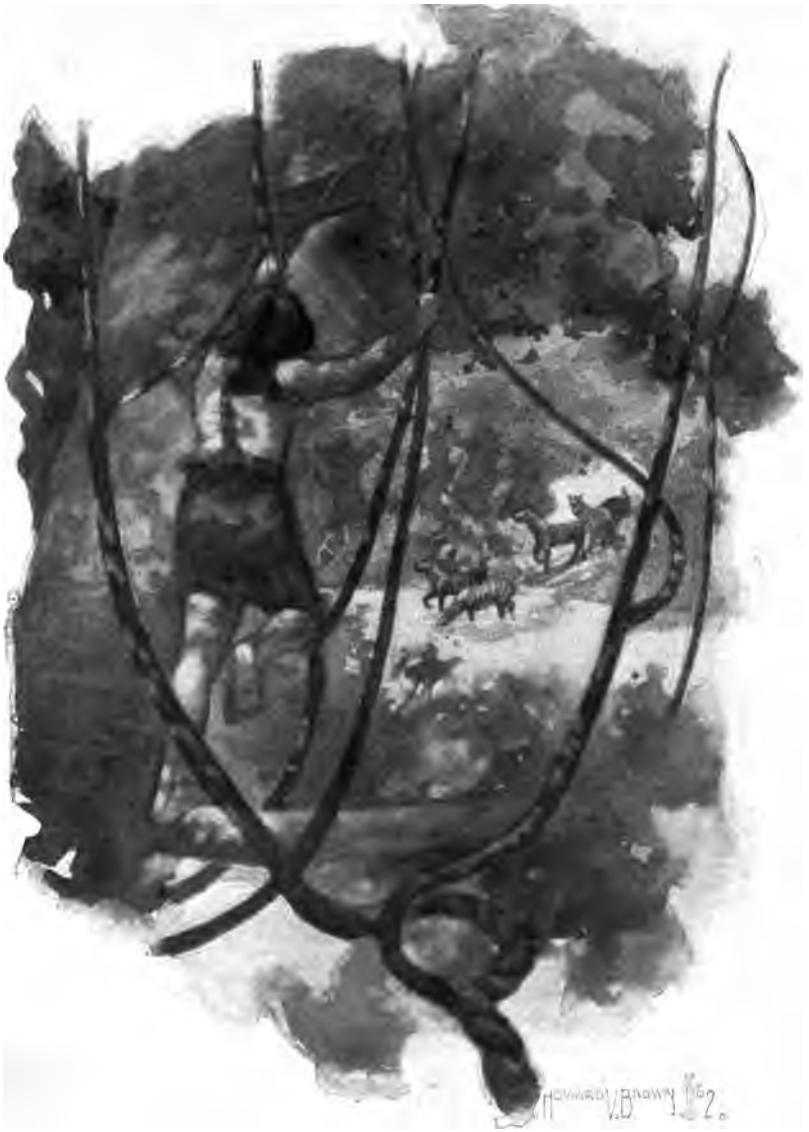
XV.

THINGS TO THINK ABOUT

Do you think that the wild horses had leaders for their herds?
What would the leader have to do?
What might happen to the horses that did not follow the leader?
What could Bodo learn by watching the wild horses?

Bodo Follows the Wild Horses

Two or three years passed by.
Bodo was now about ten years old.
He still lived on the wooded hills.
One afternoon he went to the river.
The wild horses were drinking there.
Bodo watched them wade through the shallow water.
He watched them toss their shaggy manes.
He listened to their whinnying calls.
He tried to whinny, too.
The horses drank until they were satisfied, then they started toward their evening pasture.



"Bodo watched them wade through the shallow water"

The largest horse led the herd up the trail.
Others followed one by one.
What a long line they made!
The leader was far away over the hill before all the horses had left the stream.

"Farther out was a herd of mammoths"

The smallest and the weakest ones lagged behind.
Spotted hyenas were lying in wait for them.
Bodo wondered if he could catch a wild horse.
He wondered where the horses went at night.
He followed the herd a long, long way.

He went swinging along from branch to branch.
At last he came to a grassy plain.
He did not dare to go out on the plain.

A bison

So he sat on a branch and peeped through the leaves.
Wild horses were feeding on the edge of the plain.
Farther out there was a herd of mammoths.

Beyond these still other herds were feeding.
They may have been bisons or wild cattle.
All these animals were eating the fresh green grass.
Bodo watched them till nearly sunset.
But while the sky was still red in the west, Bodo tied himself to a branch and fell asleep.

THINGS TO DO

Cut from paper some of the wild animals that Bodo saw eating grass.

Make a picture of what Bodo saw when he was in the tree.

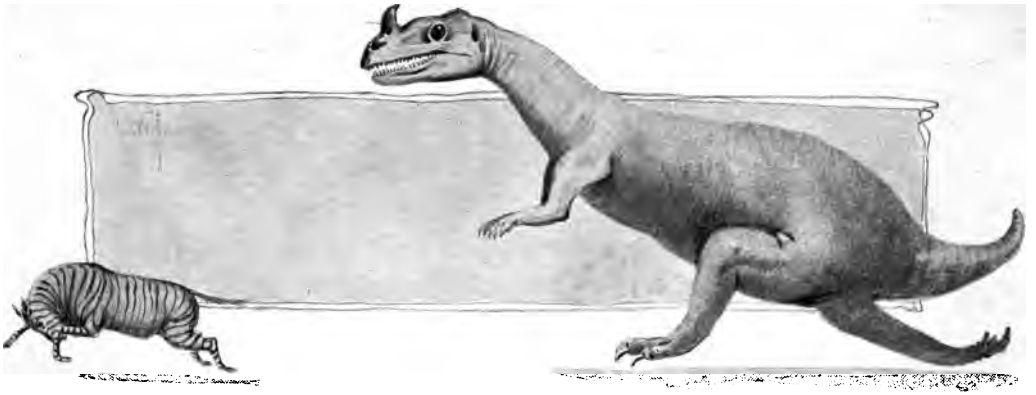
XVI.

THINGS TO THINK ABOUT

Do you think that the wild horses that Bodo saw were as large as our horses?
How many toes do our horses have?
How many do cows have?
Why can the horse run faster than the cow?
Which can walk the better on the marsh? Why?
Do you know of any animals that have five toes on each foot?
Do you know whether the horse's foot has always been shaped as it is now?

The Story of the Wild Horse

When the Tree-dwellers lived all the horses were wild.
Nobody had tried to tame them.
They were no larger than our Shetland ponies.
But they were larger and stronger than they once had been.
Long, long before the Tree-dwellers lived there were wild horses.
They were tiny little creatures.
Perhaps you would not think that they were horses at all.
They were no larger than a fox.
They had stripes like the zebra.
They had five toes on each foot.
They lived on the marshes and on the dry land.
The land at that time was almost covered with water.
The water was filled with fish and reptiles.
Great reptiles crawled about everywhere.



"The wild horses tried to keep out of their reach"

They were masters of the sea and of the dry land.

All the creatures feared them.

The wild horses tried to keep out of their reach.

The foot of the little horse was not shaped for running, but it was fitted for climbing trees.

When a reptile appeared the horses climbed the trees.

They stayed in the trees until the danger was passed.

Then they came down to their pastures again.

THINGS TO DO

When you have a chance notice cattle and horses walking on a marsh.

Which sinks the deeper into the mud?

If you cannot tell why, thrust your fist into the mud. When you have drawn out your fist, stretch out your fingers and press down upon the mud. Which is the easier to do?

XVII.

THINGS TO THINK ABOUT

Why can cattle walk on a marsh more easily than horses?

Why did the wild horses that lived long ago need five toes on each foot?

When you run, what part of your foot touches the ground?

What part of the wild horse's foot touched the ground when he ran? What part touched the ground when he walked?

What happens to the muscles that you do not use?

What happens to the muscles that you use the most?

How can you get strong muscles?

If the wild horses had always stayed on the marsh do you think that their toes would have disappeared?

Can you think how the hoof of the horse became round and hard? What has become of the side toes?

"Colts grew to be larger than their mothers"

More About the Wild Horse

Many, many years passed.
There was more dry land than there once had been.
Few of the great reptiles now lived.
Wild horses no longer climbed the trees, but they had four toes on each foot.
Horses now were as large as our sheep.
They were able to run very fast.
When food became scarce, they could go to distant pastures.
Colts grew to be larger than their mothers.

When they walked on the marshes they used all but one toe.
When they ran they used the tips of the larger toes.
The largest toe was used the most of all.
It grew to be larger and larger.
The other toes became smaller and smaller.
It was no longer safe for the horses to walk on the marsh.
They were apt to sink in the mud.
So the horses lived on the dry land.
After many years they were as large as Shetland ponies.
Their long shaggy coats were striped like the zebra's.
The large toe had now become a hoof.
The little side toes no longer touched the ground.
When the Tree-dwellers lived there were no side toes.
Little bones were left to show where the toes had been.

But the hoof had become so hard and round that the horses could run very fast.
They could strike hard blows with their hoofs.
They could bite with their sharp teeth.
They were now able to protect themselves.
There were soon many herds of wild horses.

THINGS TO DO

Draw a picture of the wild horse when it was as large as a fox.
Draw a picture of it when it was as large as a sheep.
Draw a picture of it when it was the size of a Shetland pony.
Model a horse's head in clay.
Ask some one to read you the story of the "Pacing Mustang."
You can find the story in Ernest Thompson Seton's "Wild Animals I Have Known."
Find animals or pictures of animals that have five toes.
How do these animals live?
Do you know of any animal that has four toes on each foot?
Do you know of any animals that have three toes on each foot?
Write the names of all the animals you know that can climb trees.
What kind of feet do they have?

XVIII.

THINGS TO THINK ABOUT

What tools do you know how to use?
What do you use them for?
How do you think that people did their work before they had tools?
What tools do you think the Tree-dwellers needed?
How do you think they learned to make them?

How Bodo Learned to Make Tools and Weapons

Bodo did not have any tools or weapons.
Nobody knew how to make them.
But he had learned to use his hands.
He used them to catch small animals.
He knew how to creep up softly.
He knew how to wait patiently.
He knew just when to grasp the animal.
Bodo used his hands to gather berries and nuts.
He used them to pull up roots.
He used them to rake the acorns together.

"Sometimes Bodo threw stones"

He used them to scoop small things up from the ground.
Bodo knew how to strike with his fists.
He knew how to kick with his feet.
Sometimes he threw stones.
Sometimes he threw sticks.
Sometimes he struck with a stick in his hand.

The stick Bodo used

He could strike harder blows with a stick than he could when he struck with his fist.
Sometimes it hurt him when he struck with his fist.
It did not hurt him when he struck with a club.
Bodo had many enemies.
He had to take care of himself.
He felt safer when he had a club in his hand.

THINGS TO DO

Show what Bodo used for a rake.
Show what he used for a scoop.
Show how he caught wild animals.
Draw a picture of Bodo catching a squirrel.

XIX.

THINGS TO THINK ABOUT

Have you ever used a hammer?
What are our hammers made of?
How do you think people learned to make hammers?
Why did Bodo need a hammer?
What do you do with your knife?
How many kinds of knives have you seen?
How do you think people cut their food before they had knives?
What do you think they used for their first knives?

Bodo's Hammer and Knife

Bodo had never had a warm dinner.
He had no fire to cook his food.
Much of his food was hard and tough.
He had not learned to soften it with fire.
He had not learned to crush or grind it with stones.
His teeth did all of this work.
The teeth of all the Tree-dwellers were large and strong.
They were fitted to cut and grind tough food.

They were fitted to crack the shells of nuts.
Bodo often cracked nuts with his teeth.
But sometimes he found nuts that he could not crack.
He had never seen or heard of a hammer, so he threw a hard nut against a rock.
The nut did not crack.
So he kept on trying different ways.
At last he struck the nut with a stone.
Its hard shell broke.
How glad Bodo was!
He ate the kernel and then cracked some more nuts with the stone.
This stone was his first hammer.
Sometimes he used a rough stone.
Its rough edges hurt his hand, so he hunted for a smooth stone.
At other times he wrapped one end of a rough stone in grass.
The grass protected his hand.
This was the first handle to his hammer.
Bodo liked to use this hammer.

He liked to use smooth hammer-stones.
But sometimes the smooth stone slipped or bounded back and jarred his hand.

"Bodo cracked nuts with a stone"

One day he found a smooth stone that had a little pit on either side.
He put his thumb and finger into the pits and cracked a hard nut with the stone.
This was just what he needed.

It neither slipped nor jarred his hand.
Some of the other Tree-dwellers tried it.
They wanted one like it, so they began to hunt for pitted stones.
They could not always find such stones, but they never thought of making the pits.
People lived many years before they learned to do that.
Tree-dwellers simply used things that they found on the spot.

The chipped pebble

They seldom changed their shape.
We have only a few weapons that we know they made.
They were found years ago deep down in some gravel.
They had lain there many long years.
Here is a picture of one.
It is only a chipped pebble.
Such a weapon is used nowadays only in play, but then it was used in real work.

For a long time the Tree-dwellers did not have even this.
They used their teeth and nails instead.

An antler used as a wedge

Some animals had larger and sharper teeth.
The Tree-dwellers found such teeth in the sand.
They found sharp claws there, too.
They often found sharp bones and horns.
They used such things for cutting for many long years, but at last they made a knife.
It happened when Bodo was cracking a bone.
In some way he broke his hammer.
He picked up the pieces and looked at them.
They were sharp enough to cut with, but the edges hurt his hand.

So he found a smooth pebble and chipped flakes from one end.

Before long he had a sharp point.

He never hafted it; but he left one end smooth, so that it would not hurt his hand.

It was such a weapon as this that was found in the gravel.

You can see that it is something like a spear-head.

Bodo used it when he hunted small animals.

He used it to skin them and to hack off strips of flesh.

Many things had been used as knives before, but this was the first knife that we know man made.

THINGS TO DO

Hunt for some smooth hammer-stones. If you can find one with pits on either side, try both kinds and find out which one works the better.

See if you can find a good stone for a knife.

Strike the edge to see if it crumbles.

Find one that will not crumble.

Do you know whether stones have names?

What stones have you that you would like named?

XX.

THINGS TO THINK ABOUT

Have you ever seen wild animals protect their little ones?
How do they do it?
When the mother goes away, in what kind of a place does she leave them?
Do you know whether the young animals mind their mothers?

What Bodo and One-Ear Found in the Alders

Bodo grew to be a large boy.
He made many friends among the Tree-dwellers, but he liked One-Ear best of all.
The boys liked to hunt together.
When they had enough to eat they liked to play.
One night as they were watching a herd of wild cattle, a young cow caught their eye.
She was running down toward the marsh.
The boys wondered why she was going.
They chased her down the trail.

When the cow saw what the boys were doing she started off through the underbrush.
It was no longer safe to follow, so the boys gave up the chase.
Darkness came on.
The boys dropped their clubs and climbed a tree, where they spent the night.
They slept until the break of day.
As they were rubbing their sleepy eyes, they heard a queer sound close by.
"What is that?" said Bodo.
The boys listened.
All was still.
But they were sure that some animal was near.
There was a clump of alders within a stone's throw.
Perhaps a bear was hiding there.
The boys were eager to find out, but they knew better than to rush into danger.
So they waited and listened.
All was quiet.
Bodo threw a stick.

"They crept up softly and peeped into the alders"

Not a sound could be heard.
He called out.
Still there was no sound.
The boys slipped down the tree and picked up their clubs.
They crept up softly and peeped into the alders.
"There's nothing there," said One-Ear.
Bodo knew better.
He noticed a hump among the leaves.
He reached out his hand and touched it.
It was a little calf that had been hid there by its mother.
It scarcely moved as Bodo touched it.
Its mother had taught it to lie still.
Many people might have passed it by.
But Bodo had sharp eyes, and besides he was very hungry.
So the boys killed the calf and began to eat the raw flesh.
They ate until they were satisfied.
Then they played among the trees.

THINGS TO DO

Choose somebody to be Bodo and somebody to be One-Ear, and let them show how the boys found the calf.
Model a calf in clay.

XXI.

THINGS TO THINK ABOUT

Why were all of the animals afraid of the rhinoceros?
How could the little hyenas hunt the big-nosed rhinoceros?
What could the Tree-dwellers learn by watching the wild animals hunt?

How the Hyenas Hunted

One day Bodo and One-Ear climbed a fir tree near the edge of a cliff.
They were watching a big-nosed rhinoceros.
It had just rooted up an oak tree with its twin-tusked snout.
Now it was tearing the trunk into strips as we tear a stalk of celery.
The boys watched it grinding the wood with its great teeth.

The big-nosed rhinoceros

They were glad that they were safe in the fir tree.
They watched the creature in silence.
Suddenly Bodo gave One-Ear a nudge.
One-Ear looked up.
Bodo put his finger on his lips, then pointed toward the underbrush.
One-Ear stared with open mouth.
A whole pack of hyenas was on the cliff.
They were sneaking along toward the rhinoceros.
What hungry-looking creatures they were!
How their eyes gleamed!
The boys wondered what the hyenas would do.

They watched to see.
The big-nosed rhinoceros went stupidly browsing along the edge of the cliff.
He did not see the hyenas.
The hyenas had learned that the rhinoceros could not see far away, and now they were taking advantage of this.
They were too cowardly to risk a fair fight.
Even the mammoth and sabre-tooth did not like to encounter the big-nosed rhinoceros.
Even they could not pierce his thick, heavy skin.
Even they feared his twin-tusked snout.
The hyenas crept softly from bush to bush.
They kept their eyes fastened upon the rhinoceros.
As he stepped on the very edge of the cliff they sprang out with fierce barks.
The rhinoceros turned fiercely upon them.
He tossed one of the hyenas over the cliff.
As he did this he lost his footing.
The huge creature stumbled and fell.

"He tossed one of the hyenas over the cliff"

He rolled down the steep cliff and was dashed upon the rocks.
The hyenas were no longer afraid.
They feasted upon the carcass.
They dragged the bones to their caves.
They gnawed them until they left the marks of their teeth.
The bones stayed in the caves for many years.
Not long ago some one found them there.
He sent them to a museum, where they may be seen to-day.
Perhaps you will go to the museum some time.
If you do, be sure and look at these bones.
Perhaps you will be able to help your friends read the story they tell.

THINGS TO DO

Think of the rhinoceros as he was rooting up the tree.
Think of him as he was tearing the wood into strips.
Draw one of the pictures.
Think of the high cliff with the caves at its foot.
Model the cliff and caves in your sand box.

XXII.

THINGS TO THINK ABOUT

Can you think how a fire might have been started before people knew how to make it?
What did the Tree-dwellers think the fire was?
Why did they fear it?
What else did they fear?

Frightened by Fire

One day there was a great storm on the wooded hills.
The lightning struck a tree in the forest.
It set it on fire.
At once the flames spread to the neighboring trees.
The Tree-dwellers were driven to the ground.

They had never been so frightened before.
They were afraid of thunder and lightning.
They were afraid of beasts of prey.
Only when they were up in a tree did they feel that they were safe.
But now the trees were on fire.
They thought that the fire was a wild animal.
They thought that it was an animal that ate wood.
They had seen the rhinoceros and the mammoth eat parts of trees, but this creature devoured all the trees in its path.

* * *

Several years passed by.
Once again a fire broke out on the wooded hills.
Once again the wild animals ran.
The Tree-dwellers ran, for they still were afraid.
Bodo ran; for he, too, was afraid.
But he soon stopped and looked at the fire.

"Bodo stood and watched it a moment"

He was almost full grown now.
He was learning every day.
He was curious about many things, and now he wanted to see what the red monster was doing.
So he stood and watched it a moment.
It seemed to be chasing him.
So he ran to find a hiding-place.
He ran around through the underbrush until at last he found a safe place.
The fire ran away from him now.
He stood and gazed at the red flames.
The wind blew.
The fire monster spread its great red wings and leaped from tree to tree.
The branches groaned, and cracked, and fell.
Bodo was filled with terror.
He did not know what to do.
After a little it began to rain.
The fire monster became smaller and smaller.
In a few moments it was gone.
Bodo wondered where it went.

THINGS TO DO

Think of the Tree-dwellers and the animals running away from the forest fire.
Draw the picture.
Show how Bodo tried to find out more about the fire.
Draw a picture of him as he was watching the fire.

XXIII.

THINGS TO THINK ABOUT

Why would the Tree-dwellers want to use fire?
How would they learn to take care of it?
Why could they live in a better way after they had fire?

How People Got Their First Homes

The Tree-dwellers still thought that the fire was alive.
The red monster still frightened them.
Whenever they saw it they ran away.
Bodo, too, was afraid of the fire.
So he tried to be good to it and thus make it his friend.
He gave it wood to eat.

He learned to go near it without getting hurt.
He learned to carry a burning branch.
Once he carried a firebrand to the old oak.
He put it in the hollow of the tree.
Then he gave it dry sticks that he found close by, and he watched it while it ate them.
As he stood looking at the fire, the sound of footsteps fell upon his ear.
He looked up to see who was passing.
It was Sharptooth.
She was coming to the old oak tree.
As soon as she saw the fire, she ran.
Bodo called to her.
He asked her to come back.
Sharptooth was trembling, so that she could scarcely walk.
Bodo took her by the hand.
He led her to the fire.
He told her how he had made friends with it.
She listened to what he said, but she still seemed afraid.

Bodo wished to show that he was not afraid.
He looked puzzled a moment and then he said, "I am not going to sleep in the trees any more."
For a moment Sharptooth was speechless.
At length she opened her lips and spoke.
"The cave-bears will get you," was what she said.
But Bodo had thought of the bears.
"I am not afraid of the bears," he said. "They run when they see me with fire. I am going to sleep at the foot of this tree."
Then Sharptooth was troubled.
She was anxious about Bodo.
She had taught him the best that she could.
But now he seemed to be risking his life.
She wondered how he could do it.
As it grew dark she climbed into a neighboring tree.
She was afraid to sleep in the old oak that night.
Bodo stayed on the ground beside the fire.

Sharptooth did not close her eyes.
She kept watch from a branch of the tree.
She knew the wild animals were out of their dens.
She saw their shadows among the trees.
When they saw the fire they turned and ran.
But Bodo stayed by the fire.
He was a brave boy, yet he could not sleep.
As long as he was awake he felt safe.
But he was afraid of what might happen if he went to sleep.
So he kept awake and fed the fire.
Sharptooth still kept watch from the tree.
At last she came down.
"Let me feed the fire, Bodo, while you sleep," she said.
Bodo had been yawning for some time.
He was glad to have a chance to rest.
So he slept while Sharptooth took his place.
She watched the fire cautiously at first.
Then she fed it and found that it did not hurt her.

"They lived by the fire at the foot of a tree"

She liked the warmth that it gave.
She enjoyed the pleasant firelight.
She saw that it was their friend.
After that Sharptooth and Bodo did not sleep in trees.
They lived by the fire at the foot of a tree.
Sometimes their home was by the old oak.
Sometimes it was in other places.
But it was always where they carried the fire.

THINGS TO DO

Tell how to make a fire.
What does a fire need in order to burn?
Put a tumbler over a lighted candle and watch to see what happens.
Why does the light go out?
Light the candle again and see if you can find out what it is that burns.

XXIV.

THINGS TO THINK ABOUT

What do you think the other Tree-dwellers did when they heard of the fire Sharptooth and Bodo had?
Does fire ever do any harm nowadays? Why do we need to be careful in using fire?

How the Tree-dwellers Formed a Clan

The next night One-Ear stayed with Sharptooth and Bodo at the foot of the old oak.
Then other Tree-dwellers came.
At first they were afraid just as Sharptooth had been.
But they, too, soon learned that the fire was their friend.
So they sat around the fire each evening.
They talked about the wild animals they had seen.
As long as they sat by the fire, they felt safe.
So they came to the fireplace each night.
They began to live together.
They formed a clan.
Their clan was the fire clan.
The women with babies stayed near the fire.
All the others went farther away.
Each one hunted for his own food.
Each ate what he found on the spot.
But all came back to the fireplace at night.

"They talked about the wild animals they had seen"

All were tired and needed to rest.
Since they had no chairs they squatted on the ground.
They talked and they played in the firelight.
When they got drowsy they fell asleep.
But Sharptooth kept watch of the fire.
Her sisters helped, but she was the clan mother.
It was she who took charge of the fire.
She knew how the fire became their friend.
She knew that it needed care.
She knew that it gave them their first home.
So she taught the people to worship the fire.

THINGS TO DO

Play that you are Tree-dwellers just beginning to form a clan.

Plan how you will divide your work.

Choose sides and let those on one side tell a story of the Tree-dwellers before they had fire. Let those on the other side tell a story of the Tree-dwellers after they had fire.

Look at the picture on page 100 and tell such a story about it as you think the Tree-dwellers would tell after they had seen such a fight.

XXV.

THINGS TO THINK ABOUT

How were the Tree-dwellers sheltered from the wind and rain?
How did they keep warm after they used fire?
How did they find shelter from the rain?
What trees offer the best shelter from the rain?
Where is the rain that falls on those trees carried?
Do you know what kind of roots those trees have?
What trees do not give a good shelter from the rain? Why?
What trees would give the best shelter in the winter? Why?
How did the fire clan find shelter from the cold winds?
If they were living in places that were not well sheltered, what kind of a shelter do you think they might make?

How the Women Made a Shelter

When people slept in trees, they did not need to make a shelter.
They were sheltered by the trees.
Long after they began to sleep on the ground, the trees still sheltered them.
The leaves of the trees kept off the rain.

The thick underbrush kept off the cold winds.
When the fire clan moved to a new place, it was always Sharptooth who chose the spot for the fire.
She knew the best sheltered places.
Sometimes she chose a spot near an oak or a birch.
Their tops were well thatched with leaves.
They shed rain almost as well as a roof.
But when the oak and the birch trees dropped their leaves, Sharptooth carried her fire to a fir or a spruce.
These evergreen trees had needle-like leaves.
They gave some protection from the rain and the snow.
But sometimes a drizzling rain kept up for many days.
Sometimes the cold winds blew.
Then the fire clan shivered with the wet and the cold.
Mothers were anxious about their children.
They wanted to keep them safe from harm.

So they tried to keep off the cold wind and the rain.
They had not yet learned many ways of working, but they long had known how to weave cradles of vines.
So the women now tried to weave a shelter.
They broke off large armfuls of evergreens.
They carried them to some saplings that grew near the fire.
Then they bent down the tops of the small growing saplings.
They tied them together and began to weave.
They wove branches of evergreens among them.
They piled larger branches against the wall.
At last the shelter was done.
It was the first shelter that they had made.
There was not one like it on the wooded hills.

THINGS TO DO

Make a playhouse that will shelter you from the wind and the rain.
Find trees that give a good shelter from the sun and the rain.

"So the women now tried to weave a shelter"

Notice trees that do not give good shelter. See if you can find out why some trees give a better shelter than others.
When do oaks and birches drop their leaves?
Do evergreen trees ever drop their leaves?
Find out why we call them evergreen trees.

XXVI.

THINGS TO THINK ABOUT

What do we use baskets for?
What are they made of?
Do you think that the Tree-dwellers made baskets before they had fire?
When do you think that they would first need baskets?
How do you think that they might have made them?

How Sharptooth Made a Basket

Before the Tree-dwellers had fire they did not need baskets.
For a long time afterwards they did not make them.
They ate fruits from the trees and cracked the nuts where they found them.
Each night they came home one by one.

Sharptooth still had charge of the fire.
She ate wild roots that grew near.
She cracked nuts that she found in the trees close by.
She ate berries in a neighboring patch.
But she never went far away, and she never stayed away long.
The blueberries were now ripe, so she went to the patch.
How she wished she might stay a long time!
But as soon as she had eaten a few, she hurried home to the fire.
As she scrambled over the fallen trees, she broke off a handful of bushes.
They were loaded with ripe blueberries.
She carried them home to the children.
She told the women and children about the patch.
They all wanted to go.
So they piled broken branches upon the fire.
Then Sharptooth told one of the women to stay at home and take charge of the fire.

The women left their babies and little children in charge of this woman, too.
How disappointed the little children were!
They watched the women and older children until they had passed out of sight among the trees.
Sharptooth led the way to the patch.
In a few moments they found it.
It was almost blue with berries.
The children ate as fast as they picked.
The women ate, too, for a while.

The bottom of the basket

But they remembered their little ones at home.
So they picked heaping handfuls of berries.
They wanted to carry more berries, so hunted for something to hold them.

One woman had a rabbit skin.
The other women helped her fill it with berries.
Another woman made a basket of oak leaves.
They filled that with berries.
Sharptooth gathered some rushes from a marshy place and tried still another way.
She sat down upon the grass and began to weave.

"She bent the rushes and tied the ends together"

The bottom of the basket was soon made.
Then she bent the rushes and tied the ends together.
After that she wove round and round.
When the basket was deep enough she fastened the ends.
Then the basket was done.
It did not have a rim.
Sharptooth did not miss the rim, for this was her first basket.

She called the women and children around her.

They ran up to see what she had made.

"She wove round and round"

Every one wanted to take it.

It did not take long to fill the basket with berries.

Sharptooth took them home to the children.

How glad the little ones were when they saw the women and children!

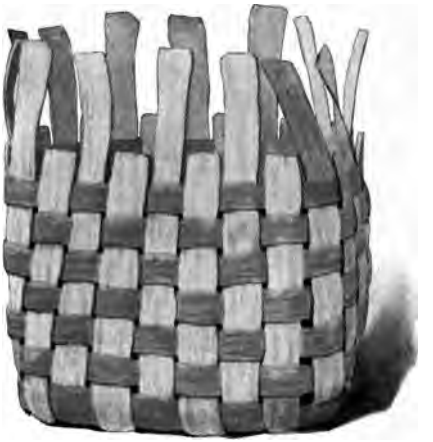
They were glad to eat the berries.

While they were smacking their lips, Sharptooth showed them the basket.

That night as the fathers and mothers came home, the children ran out to meet them.

Each time they told what Sharptooth had made.

Each time they showed the rush basket.
It was not many days before each of the older children had made one like it.



"When the basket was deep enough she fastened the ends"

THINGS TO DO

Look at the pictures in this lesson and see how Sharptooth's basket was made.

Gather tough grasses or rushes and make a basket of your own.

Show how the children ran to meet the fathers and mothers as they came home at night. Draw the picture.

XXVII.

THINGS TO THINK ABOUT

Do you think that the fire clan used fire in as many ways as we do?

What do we use it for?

How many uses do you think that the fire clan made of it?

Can you think how people learned to cook food?

"Sabre-tooth was large and fierce"

How Bodo Used Fire

All the Tree-dwellers now knew that the fire was their friend.

They found it useful in many ways.

It guarded the spot where they slept at night, and it helped them all through the day.

They no longer swung from branch to branch.

When they carried a firebrand, it was safe to walk on the ground.

Their hands were at last free.

When Bodo started out with his firebrand the wild animals ran to their dens.

Sometimes Bodo pursued them.

He chased some of the animals home to their dens, but he never went to the caves.
Sabre-tooth and the cave-bear were too large and fierce.
The hyenas were small, but they lived in packs.
So Bodo learned to let them alone.

"Bodo would build a fire at the mouth of the hole"

But he was not afraid of the gophers and badgers.
He chased them to their holes and tried to smoke them out.
He would build a fire at the mouth of a hole.
Then he would stand with a club in his hand and watch.
He would watch until the animal came out.
Sometimes he had to wait a long time.

Bodo's club

But in the end he nearly always got meat to eat.
One day he was hunting squirrels.
He chased a squirrel to its hole in a tree.
Then he tried to smoke it out.
He waited a long time in vain, so at last he set fire to the tree.
But the rain soon came and his fire went out.
So Bodo struck the tree with his club.
The trunk gave way.
Bodo peeped into the hollow tree.
He wanted to find the squirrel.

It lay there perfectly still.
He put in his hand and pulled it out.
It had been killed by the fire and smoke.
He began to eat the warm flesh.
He wondered why it was so hot and tender.
Bodo did not know then that the flesh had been roasted.
This was the first time that he had ever eaten cooked food.
Not long afterward all the people learned to roast meat.

"He put in his hand and pulled the squirrel out"

THINGS TO DO

Draw a picture of Bodo hunting with a firebrand.
See if you can find trees that have hollows in them.
How do you think that the hollows were made?
Find out whether there are any animals near you that live in hollow trees.

XXVIII.

THINGS TO THINK ABOUT

Do you think that the people of the fire clan would help one another in time of danger?

Can you think why people began to work together instead of hunting alone?

How Bodo Saved One-Ear's Life

One day One-Ear was hunting gophers on the grassy upland.

His torch went out.

So he tried to get back to the wooded hills without being seen.

At first he crept through the tall grass.

But he soon came to a place where the grass did not cover him.

He hurried on as fast as he could.

He had almost reached the wooded hills when a cave-bear crossed his path.

The bear saw him.

One-Ear shouted for help, and then ran as he had never run before.

"They saw Bodo rush up to the cave-bear and wave a torch in his face"

But the cave-bear overtook him.
He soon had One-Ear in his embrace.
One-Ear remembered nothing more, but the men who heard him saw what happened.
They saw the cave-bear grasp him with his huge paws.
Then they saw Bodo rush up to the cave-bear and wave a torch in his face.
The cave-bear let go his hold.
The frightened beast ran off to his cave.
The men came up in time to help Bodo raise One-Ear from the ground.
They helped him back to the wooded hills.
His wounds were soon healed, but he always carried the marks of that cave-bear.
That was the day that he lost his ear.
We have called him One-Ear before, but the fire clan never called him One-Ear until after that day.

THINGS TO DO

Find a stick that will make a good torch and make one.
Draw a picture of One-Ear and the cave-bear.

XXIX.

THINGS TO THINK ABOUT

How do you think the fire clan spent the evening?
If they could not say what they wished to say, how do you think they would make themselves understood?
How do you think that they learned to hunt together?

How People Learned to Hunt Large Animals

For many days the men talked about One-Ear's narrow escape.
They acted the whole thing over again.
One man would show what One-Ear did.
Another would take the part of the cave-bear.
Then some one would play he was Bodo and rush up with a make-believe torch.
Others showed how the men came up to the spot and helped One-Ear home.
They played this over and over again.
They learned to work together.
They learned to play other plays as well.
They learned it in this way: They watched the wild animals all through the day.

At night they showed what they had seen.
At last they made plans for hunting them.
They did it the way children make a new game.
First they chose a leader for the play.
Then the leader asked them all to help.
He showed them what to do.
They all did as the leader said.
They learned to play together.
This play was their hunting dance.

A leader

It helped the people to hunt together.
It helped the brave men to lead in the hunt.
It helped all the people to do their part.
Only brave men were given a chance to lead the hunting dance.
Each one led the best that he could.

The people always chose the man that they thought led the best.

This man led them all in the hunt the next day.

THINGS TO DO

Let any one who would like to lead in a hunt, lead in a hunting dance.

When all have led who wish to do so, let the class choose the one who led the best.

XXX.

THINGS TO THINK ABOUT

Why do you think the Tree-dwellers liked their brave men best?

How do you think they helped them to become more brave?

Can you think why people had not yet learned to wear clothing?

Why would they care more for ornaments at first?

Have you ever heard any one speak of "a feather in one's cap"?

Can you tell what is meant by it?

What kind of ornaments do you like to wear?

Do you know how to make them?

Can you make such ornaments as the Tree-dwellers wore?

Why People Began to Wear Ornaments

The fire clan played a hunting dance each night.
They hunted every day.
They began to attack the larger animals.
Brave men were needed to do this.
Men liked to show that they were brave.
So they kept trophies of their conflicts with the wild beasts.
These trophies were sometimes teeth and claws.
Sometimes they were beautiful skins and feathers.
When men found the time they worked upon them.
They made them into curious ornaments.
It was hard work to bore holes through the teeth and claws.
But they learned to do it.

A necklace of claws

They strung them on sinews and hung them about their necks.

Sometimes they wore them on their arms and wrists.

Sometimes they wore them on their ankles and knees.

"They strung them about their necks"

They made head-dresses of the feathers.

They covered their shoulders with the skins.

Men did not wear skins to keep themselves warm.

They wore them to show that they were brave.

Such trophies were worn by all the brave men.

These men were the leaders in time of danger.

When they were successful in the hunt, the people praised them.

When they failed, the people mocked them.

So they tried to do their work well.

They tried to find the best stones for tools and weapons.

They worked until they made them sharp and strong.
They studied the animals until they learned their ways.
They taught the people the hunting dance.
They kept the trophies of their brave deeds.
They were brave men.
All the people praised them.

THINGS TO DO

Tell a story of how Bodo earned a trophy.
Find ornaments that you think the leaders might have worn.
Dress some dolls the way you think that the leaders dressed.
Perhaps you would like to string seeds and make a necklace.

XXXI.

THINGS TO THINK ABOUT

What animals live in the cold north?
Do they like to live there?
Would you be surprised if any of these animals came here to live?
If they came, what do you think it would mean?

The strange musk sheep

The Coming of the Musk Sheep

One day long after Bodo lived some men went up the valley to hunt.
They had not gone far when the leader waved his hand.
All the men stopped to find out what he wanted.
He pointed to a herd of strange animals feeding on the rocky slope.
Then he motioned to show them what to do.
He sent some of the men up the trail to the right.
He motioned for others to go to the left.

He wanted to surround the animals.
The strange creatures soon caught sight of the hunters.
They huddled together like frightened sheep.
Then the men thought they could surely catch them.
They shouted aloud for joy.
But the animals turned and ran up the slope.
They jumped over rocks and chasms with ease.
They were soon out of sight.
How disappointed the hunters were!
They did not know what these strange animals were.
They did not know from what place they had come.
They wondered why they had come to their land.
Perhaps you would like to know.
They were musk sheep that had come from the cold, cold north.
They were used to treeless, desolate places.

They were used to eating moss and young shoots of the willow.
They looked something like sheep and something like oxen.
Sometimes they are called musk oxen.
They looked something like the bison.
Sometimes they are called musk bison.
Does it seem strange that the musk sheep should leave their cold home and come to the land where the Tree-dwellers had lived?
It was not so strange as it seemed.
Many years had passed since the Tree-dwellers lived.
It was no longer warm on the wooded hills.
There was snow on the ground the greater part of the year.
After many years it became very cold.
Then all the animals came down from the north.
The coming of the musk sheep was the sign of the coming cold.

THINGS TO DO

Bend your arms to show how the musk sheep's horns curve.
How do you think the musk sheep used its horns?
Model a musk sheep in clay.

XXXII.

THINGS TO THINK ABOUT

What animals stay here in the winter?
How do they keep warm?
How do they find food?

The Woolly Rhinoceros

About the same time that the musk sheep came from the north, another strange animal appeared.

It was a huge creature.

Not one like it has lived for ages.

It was a woolly rhinoceros.

The big-nosed rhinoceros liked to live where it was warm.

It lived on the wooded hills before the Tree-dwellers did.

The small-nosed rhinoceros liked the warm country, too.
It came from the south when the Tree-dwellers appeared.
But the woolly rhinoceros came down from the north.
It was able to live in the cold.
It had an inner coat of fine curly wool.
This coat kept it warm.
It had a coarse, hairy outer coat.
This coat kept it from feeling heavy blows.
It had two horns on its ugly snout.
They kept it safe from harm.
When it was not disturbed it was a peaceable animal.
But when it was attacked there was no animal that was more fierce.
The other animals learned to let it alone.
Sometimes the wolves and hyenas frightened it over a precipice.
But it was a long time before men tried to hunt it.

THINGS TO DO

Tell a story of how the wild animals were taught to let the woolly rhinoceros alone.

See if you can find an animal that has both an inner and an outer coat.

XXXIII.

How We Have Learned About the Tree-dwellers

The Tree-dwellers lived such a long time ago that we do not know all that they did.

But they have left some things to tell their story.

A few of their bones and stone weapons have been found in the gravel.

We have learned something about the Tree-dwellers from studying these.

Bones of animals that lived then have been found in the caves.

They tell something more about the life of the Tree-dwellers.

Marks of plants have been found upon the rocks.

They, too, help to tell the story.

Wise men have studied all these things.

They have tried to learn all that they could about these people.

We have written their story in this book for you, so that you may know how our forefathers lived before they learned how to use fire.

THE test of a book is the service it can render. The character of the service demanded by it is determined by the needs of those to whom it is devoted. This book was not written for the child of five or six years, although children of that age have shown an interest in it. The child of five or six is absorbed in the activities of his own home and his immediate environment. His own neighborhood may well constitute the chief source from which to draw the subject-matter in these early years. Even though many of the processes that he observes are complex, it matters little to the child at this time; for so easily do they lend themselves to dramatic play that they cause him little difficulty. The child at this time, therefore, has no need of this book.

But there comes a time when the ideal and the real world begin to separate. No longer content with a "make-believe" process, and unable to control the complex processes of modern life, he feels a need that cannot be satisfied by the resources of his neighborhood alone. There is need of looking elsewhere in order to find experiences that are sufficiently related to his spontaneous activities to enlist his attention, and sufficiently related to what is best in the society in which he lives to form legitimate subject-matter for this period of development. The materials which constitute the subject-matter of this book have been selected and arranged with reference to the needs of the child at such a time. It is the child of six and a half or seven years for whom this book is intended.

Were it not true that so many books that are written for children have little regard for real facts, it would seem unnecessary to state that in no case has material been introduced into this book which cannot be justified by reference to a recognized authority in anthropology, paleontology, or geology. The story-form by means of which these facts are conveyed is merely a literary device for bringing home to the child the truth that has thus far been ascertained regarding the fundamental steps in the development of our industrial and social institutions.

The portrayal of the situation which caused our early forefathers to rob birds' nests and kill young animals will no doubt shock the sentimentalist who orders eggs or veal as a matter of course. There might be good ground for his feeling were there not present in the child the instinct to do similar deeds even though living under social conditions that do not justify such acts. Any one who will take the trouble to recall his own childhood, or to make the acquaintance of children of six and a half or seven years, will realize that such instincts are present, and that they must find expression in one form or another. Is it wise to ignore the facts of the case and allow the child to form the habit of gratifying his blind instincts, or shall we recognize the situation and meet it with all the wisdom at our command? Is it not the better plan to tell the child frankly of the way in which people lived at the time when they did what he would like to do now, and lead him to discover the changes that have taken place that lead us to disapprove of actions which, under different conditions, were considered good?

The teacher who knows that she has good ground for her convictions is not afraid to look upon a question from all sides. The fact that the teacher is willing to look at a question from the child's point of view is a means of establishing sympathetic relations between her and the child, who thus becomes willing to look at the question from the teacher's point of view. A sounder morality can be developed by honestly facing the facts with the child and by

giving him the benefit of a broader experience, than by leaving him to face the situation alone in the light of but part of the facts. The problems with which the child at this time is grappling are so similar in character to those of the race during the early periods of its development that they afford the child a rich background of experience suited to his own needs. The successful solution of these problems is as important with reference to the development of the individual to-day as then in determining the welfare of the race. A firm basis for the development of the intellectual, the moral, and the physical life can thus be laid at this time by a wise use of the experiences of the race when it was laying the foundations upon which our civilization rests. It must be remembered that there is as wide a difference between the real situation in the hunting life and the scenes depicted in this book as there is between the real attitudes of primitive people and those of the child, which are idealized forms of the same attitudes.[1] The child would shrink in terror from the real conflict. His interest is in the dramatized form. If this dramatic interest of the child is satisfind, it can be made to pay tribute to the sciences and the arts. If it is ignored or repressed, it is liable to find expression in acts of cruelty.

METHOD

The subject-matter is presented with the view of economizing the energy of the teacher as well as that of the child. The attempt has been made to base each lesson upon the experience of the child or at least upon that which he may be enabled to experience if he has not yet done so. This experience is so treated as to secure problems for advance thought. The purpose of "*Things to Think About*" is to awaken the *inquiring attitude*. It is at this point of the lesson that the child is given the opportunity he prizes so highly of telling what he has seen, heard, or done. Here he meets

[1] See Katharine E. Dopp, "Some Steps in the Evolution of Social Occupations," *The Elementary School Teacher*, May and September, 1903. The University of Chicago Press.

with the new problems which compel him to reconstruct his experiences. The printed questions, which map out the main features in the development of the lesson, should be discussed freely. Care should be taken to avoid mechanical answers. It is much better to leave questions unsettled, or to leave the subject with several different solutions that the different children have worked out, than it is to secure uniformity by imposing upon the child the judgment of the teacher or of the author of the text. In case of a necessary delay in answering a question on account of a lack of related experience, the teacher should use the means that are available for supplying the child with the necessary experience. If the printed questions are discussed before the story is read there will be less danger of a mechanical use of the book than might arise from the habit of reading the story first and making answers to the questions so as to fit the story.

The Story. The function of the story is to supply the child with racial experiences that will enrich his own more narrow personal experience. It is not intended merely to please but to *present facts* in a form which the child can understand. By using the simple form of a sequence of sentences, each sentence standing by itself, less difficulty is presented to the child in reading than if the paragraph form had been employed. The greater ease with which the young child reads this style, together with the fact that the rhythm in a majority of the stories is of a character in keeping with the subject, and readily appreciated by the child, seem to justify the use of this style for a few months of the child's life.

Things to Do. The teacher should use her judgment in regard to how many of these suggestions it is best to carry out in the school hours. In schools where little work has yet been done in pantomime, drawing, modeling, and other kindred modes of activity, it will probably be the better plan to have many of the suggestions carried out in hours of play. If the teacher takes an interest in what the child does outside of school hours as well as in what he does in regular recitation and work periods, and if she utilizes the

experiences of the child that are gained in informal ways, she will have no difficulty in securing the heartiest coöperation in the work of the school. Where constructive work has already been introduced, the teacher will have no difficulty in selecting from the suggested activities those that are best adapted to her purpose. She should always feel free to substitute for any of the printed suggestions others that may more nearly meet the needs of the child in the locality in which she lives.

TYPICAL MODES OF ACTIVITY

"If there is one principle more than another upon which all educational practice, not simply education in art, must base itself, it is precisely in this: that the realization of an idea in action through the medium of movement is as necessary to the formation of the mental image as is the expression, the technique, to the full play of the idea itself."—*John Dewey.*

Gesture and Pantomime. The muscular sense is the foundation sense from which all the others have been derived. Perceptions through sight and hearing are uncertain, often requiring to be verified by the use of the muscular sense or even by the use of smell or taste. Knowledge gained through the use of sight and hearing may be superficial; that which comes through the use of the muscular sense is wrought into the very fiber of one's being.

Among the more simple modes of using the muscular sense are gesture and pantomime. They are within the reach of every teacher. They require no materials. A worthy idea and the desire to communicate it are the essential conditions for profitable work. Gesture and pantomime are too powerful tools in education to be used carelessly. The teacher should aid the child in discovering the real motive which animated the character to be represented. She should appeal to the best in the child. In so doing she will be able to use gesture and pantomime in such a way as to transform activities, which when undirected are liable to degenerate into vicious habits, into activities of great moral significance.

Teachers who have tried gesture and pantomime as a preparatory step to other modes of activity have found it invaluable as a means of securing a genuine growth of imagery and free expression in a variety of forms.

Play. It is now well known that many of the child's spontaneous plays are idealized reproductions of the serious activities of primitive people. It is possible to make a much larger use of these plays than has yet been made. It is hoped that the suggestions that are scattered throughout the pages of this and the succeeding volumes of this series will enable the teacher to make a large use of this most important educational force.

Sand Modeling. Almost every child has had experience in sand modeling before coming to school. The part of the teacher is to enable him to make use of this habit with reference to new ends. One who has not learned through experience the value of this art is scarcely in a position to realize what a stimulus it is to the growth of definite images of geographical forms. When based upon observation, as it always should be, it is unsurpassed as a mode of developing and communicating adequate conceptions of topographical features. Sand pans should be provided so that there will be at least one pan for every two children. If each child can have a pan, the conditions will be still more favorable. Whether sand pans are available or not, every primary schoolroom should be supplied with a large sand box—two or three if there is room for them. Excellent results have been attained in many schools by modeling typical areas and representing in a graphic way the life of the place. If the sand box is lined with zinc, rivers and lakes may be represented with ease. In case there is no zinc lining, water may be represented by the use of tin foil, or by glass which may be laid in the bottom of the box, leaving only such portions uncovered as are needed in order to represent the water. Moss, twigs, grass, stones, toy animals—all help to make the scene more lifelike. By sprinkling the sand with lime water it hardens so as to keep its shape for a long time.

Clay Modeling. Although clay does not respond so quickly to the touch as sand, it preserves its shape more easily. The more skill that the teacher has in clay modeling the more freedom she will feel in the work, but she should not hesitate to make use of this mode of expression even though she has to learn with the child. The aim is not so much to secure finish in details, or a result similar to that reached by other people, as it is to secure the growth of the image and freedom in expression. Only by leading the child to compare the result of his work with the image in his mind does the image grow. By so doing, and by referring to the real object when present, the child gradually gains control over this mode of acquiring and communicating ideas.

It costs but little to supply a class with clay, for the same material may be used again and again. It is desirable, however, to have a sufficient supply to permit the preservation of the best work for some time. Clay may be bought ready mixed at art stores and in kindergarten supply stores. The common gray clay costs two or three cents a pound. Artists' clay costs five cents a pound. A cheaper kind can be obtained of manufacturers of sewer pipes. The teacher will find suggestions regarding the use of clay in Frye's *Child and Nature*, pp. 36-8; Kellogg's *Forty Lessons in Clay Modeling;* Prang's *Art Instruction in Primary Schools*, First Year, pp. 27-39, Second Year, 32-43; and in Kate Douglas Wiggin and Nora A. Smith's *Froebel's Occupations*, pp. 32-43. Excellent articles illustrated by the work of children appear in *The University Elementary Record*, which is published by the University of Chicago Press, Chicago.

Basketry. The materials of which baskets are made are less pliable than clay or sand, yet the child of seven is able to manipulate some of them. Where possible he should be encouraged to exploit his environment in the search for raw materials that are adapted to this purpose. In many localities tough grasses, willows, rushes, or other pliable materials are present, and even though the child finds little that is adapted to the purpose, the mere search for

materials enables him to appreciate the value of the commercially prepared ones and aids him in picturing these materials in their raw state. The pleasant days of autumn should be used for collecting such supplies as are available at that time. These may be prepared for use and stored until they may be needed later in the year. If the child makes a ball of braided grass he will find many ways of using it later in making baskets, mats, cradles, sandals, or anything which he may choose to make of it.

Where natural materials cannot be obtained, commercially prepared ones may be substituted. Raffia, uncolored or colored with vegetable dyes, rattan reeds, and splints may be obtained wherever kindergarten supplies are kept, as well as in large seed stores and in most of the department stores in large cities. Of the many books that are appearing upon the subject probably none is more suggestive with reference to the significance of the art than George Wharton James's *Indian Basketry*, and none more helpful with reference to mastering the processes than Mary White's *How to Make Baskets.*

Drawing and Painting. Since these arts were originally derived from gesture language, it is not strange that gesture and pantomime are the best means of preparing the child for these modes of communication. The child who has difficulty in expressing his image by means of drawing and painting should be given the opportunity to experiment by means of pantomime until his image has become so clear that he can express it in a less real way. Few children fail to draw and paint reasonably well when afforded this opportunity that should be denied to none. In order to secure the best results the teacher should be careful not to repress spontaneity by criticising too severely; on the other hand she should induce the child to make such comparisons of his work with his image and with the object when present, as to prevent the formation of careless habits of work. Although water colors are used in some schools, such materials present more difficulties than it seems worth the while for the child to encounter. More satisfactory results have

thus far been reached by the use of blackboard crayon, colored crayon, and charcoal.

Language. When the child talks about what he has experienced, his language is almost invariably simple and direct. The lessons in this book afford ample opportunity for the use of the fundamental forms of language in communicating actual experience. Many of the stories may well be supplemented by stories that the child tells himself. Care should be taken, however, to keep the child within the limits of what was possible during the age to which his story refers. Much benefit is derived from allowing the children of the class to dramatize a story after they have read it and represented it by means of pantomime. Although there is ample room for written work, it is *oral* rather than written language that should receive emphasis at this time.

Field Lessons. The geographical phases of the work are referred to so frequently throughout the text as well as under the special suggestions for each lesson, that little need be added at this time except to emphasize the fact that the teacher should make use of every opportunity to cultivate in the child an intelligent interest in his natural environment. Perhaps nothing will contribute more toward developing this interest than field lessons. The value of these lessons will depend upon whether an adequate motive is aroused in the child for taking the trip and upon whether he is given the opportunity to make use of the experience gained in a practical way. There are schools in crowded quarters of large cities where it does not yet seem practicable to take an entire class out on a field lesson. But it is always feasible to make use of informal observations that the child makes from day to day as well as the results of trips that have previously been taken by some members of the class. During the time that this book is used it is hoped that at least two or three of the following field trips or excursions may be made:

1. To uncultivated spots on hillsides, in the woods, and on natural meadows to find—

(*a*) A place where the Tree-dwellers might have lived.

(*b*) Wild foods, and to discover if possible the reasons for abundance or scarcity of certain forms.
(*c*) Trees that offer protection from the sun and rain, and branches that are tough and strong.
(*d*) Suitable sticks for primitive implements and weapons.
(*e*) Grasses, barks, willows, rushes, and other tough and flexible fibers for basketry.
(*f*) The topographical features which later are to be represented in sand.
(*g*) What animals now live in uncultivated places.

2. To a brook or river to find —
(*a*) The best drinking-places for animals.
(*b*) The best fords.
(*c*) The best places to build bridges.
(*d*) Stones for primitive implements and weapons.
(*e*) How the river grinds the stones.
(*f*) What the river carries in its water.
(*g*) What plants and animals may be seen there.

3. To a circus to see the wild animals, so as to be better able to realize what the animals that lived when the Tree-dwellers did were like.

4. To a farm to find —
(*a*) What animals live there, how they are taken care of, and how they differ from wild animals.
(*b*) What plants are cultivated on the farm and in the gardens, how they are cultivated, and how they differ from the wild plants that can be found in uncultivated spots.

5. To a gravel bed or stone quarry to find —
(*a*) What kinds of stone are there.
(*b*) How stone is quarried and what it is used for.
(*c*) A problem with reference to how the gravel bed or the stone quarry was made.

SUPPLEMENTARY FACTS

The child asks many questions, some of which are difficult to answer. Since what has been ascertained regarding the period during which the Tree-dwellers lived is not contained in books that are generally available, it has seemed best to present at this time such summarized statements as will furnish the teacher with the facts that she may need.

ANIMAL LIFE

Extinct Species. The animals of the mid-Pleistocene period that have since become extinct were the Irish deer; the big-nosed, the small-nosed, and the woolly rhinoceros; the mammoth; the cave-bear; and a sabre-toothed felis (*Machairodus latidens*) which is sometimes, though incorrectly, referred to as the cave-tiger.

The Rhinoceros. The big-nosed and the small-nosed rhinoceros came to western Europe from the south. The former came the earlier and stayed until the late Pleistocene period, when the later cavemen hunted the reindeer. During this period it became extinct. As the climate became severe, both species may have migrated south each winter. It would have been possible, however, for them to remain, for they were well adapted to a cold climate. A thick layer of fat under the skin protected them from the cold, and their immense teeth and powerful digestive system enabled them to procure nourishment from wood, which they stripped up and ate with ease.

Our information regarding these creatures is exceedingly meager. They are characterized as dull-witted creatures with dim eyesight, exceedingly impulsive and dangerous. They rarely attacked other animals, for they lived upon vegetable food; but if they were molested they were formidable creatures. At such times they would root up young trees with their tusks, and pierce and rend the bodies of their most powerful assailants. A full grown rhinoceros was seldom attacked by even a mammoth or the

sabre-toothed felis. Its thick skin served as an impervious shield, protecting it from the most powerful blows of the fiercest animals. It is quite probable that packs of hyenas and wolves learned to take advantage of precipices, and that they frightened the rhinoceros over the brink, thus disabling him so that he became an easy prey.

The woolly rhinoceros came down from the north during mid-Pleistocene times and was protected from the cold by a fine inner coat which resembled wool, and a coarse hairy outer coat. This species was abundant until the close of the Pleistocene period, when it became extinct. What is stated above with reference to the characteristics of the rhinoceros applies equally well to this species.

Very little has been written concerning these extinct species that is satisfactory for the teacher's use. Brief accounts can be found in Hutchinson's *Extinct Monsters*, p. 225; in Stanley Waterloo's *The Story of Ab*, p. 71; and in an article by E. D. Cope on "Extinct American Rhinoceroses," in *The American Naturalist*, Vol. XIII., 771 a.

The Mammoth. Professor Owen, the eminent paleontologist, writes: "The mammoth is better known than most extinct animals by reason of the discovery of an entire specimen preserved in the frozen soil of a cliff at the mouth of the river Lena in Siberia. The skin was clothed with a reddish wool, and with long black hairs. It is now preserved at St. Petersburg, together with the skeleton."

The mammoth was not so large as it has sometimes been pictured. The largest was not more than thirteen feet high, and many were not higher than nine or ten feet. Its body was heavier than that of the elephant, and its legs were shorter. It had enormous tusks, which it is thought were sometimes used as crowbars in rooting up young trees in order to get the branches for food. It is thought that several mammoths coöperated in this work. Professor Owen writes: "The tusks of the extinct *elephas primegenius*, or mammoth, have a bolder and more extensive curvature than those

of the *elephas Indicus.* Some have been found which describe a circle, but the curve being oblique, they thus clear the head, and point outward, downward, and backward. The numerous fossil tusks of the mammoth which have been discovered and recorded may be ranged under two averages of size, the larger ones at nine feet and a half, the smaller at five feet and a half in length. The writer has elsewhere assigned reasons for the probability of the latter belonging to the female mammoth, which must accordingly have differed from the existing elephant of India, and have more resembled that of Africa, in the development of her tusks, yet manifesting an intermediate character of smaller size. Of the tusks assigned to the male mammoth, one from the newer tertiary deposits in Essex measured nine feet ten inches in length, and two feet five inches in circumference at its thickest part." Mammoth tusks are collected in Siberia as an article of commerce. The ivory is little altered.

From the examination of the contents of the stomach of a mammoth that was found frozen in a marsh it has been proved that the mammoth ate not only the buds, cones, and tender branches of trees, but the wood itself. Professor Owen shows that the mammoth was independent of the seasons on account of being able to live upon such a diet. The teeth of the mammoth, one of which weighs seventeen pounds, were well adapted to such hard service, being covered with a thick enamel.

The Cave-Bear. The cave-bear differed from the grizzly of to-day chiefly in its greater size and strength. An interesting story of the cave-bear is found in Stanley Waterloo's *The Story of Ab*, Chapter XXII. Ernest Thompson Seton's "Biography of a Grizzly," in *The Century Magazine*, Vol. LIX., pp. 27-40, will be interesting to read in this connection.

The Sabre-toothed Felis (Machairodus latidens). This animal has usually been spoken of as the cave-tiger, but Professor W. Boyd Dawkins has shown that it was no more closely allied to the tigers than to other felines, and that "the very tempting name of 'sabre-

toothed tiger' must therefore be given up as implying a relationship that does not exist. It differs from the genus *Felis* in the enormous development of the serrated upper canines, as well as the presence of a third lobe on the sectorial edge of the upper premolar." It was a peculiarly destructive animal, its teeth being described as "uniting the power of a saw with that of a knife." The canine tooth of this animal is the most perfect instrument for piercing and dividing flesh known. It belonged to the southern group of mammalia; and, as the winters became cold, it probably migrated each fall. Although it was never abundant it was much feared. It became extinct during the mid-Pleistocene period at the time of the early cave-men.

Living Species. Of the living species there were present in mid-Pleistocene times, the brown bear, the grizzly bear, the wolf, the fox, the stag, the roe, the urus or the wild-ox, the aurochs or European bison, the hippopotamus, the horse, the wild boar, the beaver, the water rat, the lion, sometimes spoken of as the cave-lion and being the same species as the *Felis leo* of to-day, the lynx, the panther or leopard, the wild cat, the spotted hyena, the otter, the musk sheep, and the marmot. No animal was domesticated at this time.

The Urus. The urus, which is the representative of the wild cattle of this period, is the ancestor of our long-horned cattle, and should be distinguished from the short-horned cattle that appear in western Europe in the prehistoric period in a domesticated state. The wild bulls were formidable antagonists when enraged. It is thought by some that the Chillingham cattle are descendants of the urus. The color of the urus is not known. Some think that it was white, but others doubt that the species would have been able to survive with such a conspicuous covering. On account of their fear of the beasts of prey the wild cattle probably kept under cover of the trees during the day and went out to the grassy uplands only when darkness came on. The feeding grounds of the grass-eating animals determined the haunts of the beasts of

prey. When wild cattle are attacked, the larger animals in the herd surround the younger and weaker so as to present a wall of horns to the assailant. This habit is not peculiar to wild cattle, but is quite characteristic of all grass-eating animals.

The Wild Horse. The steps in the evolution of the horse are stated so fully in the text that it is not necessary to repeat them here. Almost any good text in geology gives the same facts. It should be remembered that the horse with five toes did not live when the Tree-dwellers did, but at a much earlier period. The teacher who wishes to read further regarding the wild horse will find materials in the *Century Dictionary* under *horse*, in *Chambers' Encyclopedia*, in H. N. Hutchinson's *Creatures of Other Days*, in N. S. Shaler's *Domesticated Animals*, in *McClure's Magazine*, Vol. 15, p. 512, and in almost any text on geology and paleontology.

The Musk Sheep. The appearance of the musk sheep in western Europe during the mid-Pleistocene period marked the change that was beginning to take place in the climate. As the climate increased in severity all the arctic species came down from the north and occupied the land during the late Pleistocene period. The musk sheep is the most arctic in its habits of any of the herbivores, and at the present time is restricted to the high latitudes of North America. It thrives in desolate, treeless, barren grounds, not even being driven from its haunts by the extremest cold. It is closely allied to the species which is the parent of our domestic sheep, although that species did not appear in western Europe until prehistoric times. The musk sheep goes in herds of from twenty to thirty individuals, and when alarmed the animals huddle together like frightened sheep. Its food is grass, lichens, moss, and tender shoots of the willow and pine. It is much sought after for its skin, which makes a fine robe. It is sometimes known as the musk ox and occasionally as the musk bison.

Plant Life. The characteristic trees of the mid-Pleistocene period were evergreen. Of these the most abundant forms were the spruce, the fir, and the yew tree. The trees which shed their

foliage were represented by the oak and the birch. The banks of rivers were shaded by thickets of laurel and by the sloe, the original form of the wild plum tree. The marshes afforded rich pastures for grass-eating animals as well as hiding-places, for they were partly covered by a heavy growth of alders. Wild peas, beans, stringy-rooted carrots, ruta-bagas, and turnips grew on the hillsides. The cabbage with its thick leaves, which had not yet developed into a head, was present. Seeds of grasses were available, but not used, for man had not yet learned to gather them and convert them into nourishing food. The teacher may be interested in referring to Candolle's *Origin of Cultivated Plants* and Darwin's *Plants and Animals Under Domestication.*

SPECIAL SUGGESTIONS

If possible read the entire book, including the preface, carefully before beginning the work. If in addition to this you can read parts of the following books and articles, do so; for in this way it will be easier to grasp the full significance of the work.

References: Katharine E. Dopp, *The Place of Industries in Elementary Education*, Chicago, The University of Chicago Press; "Some Steps in the Evolution of Social Occupations," I., II., III., IV. *The Elementary School Teacher*, Chicago, December, 1902, January, March, and April, 1903; "A New Factor in the Elementary School Curriculum," *The American Journal of Sociology*, Chicago, September, 1902. Dewey and Runyon, *The University Elementary Record*, Chicago, The University of Chicago Press.

Lesson I. The child has the right to know what the book that he is beginning to read deals with. This lesson is an attempt to answer the question that naturally comes to his mind when opening the book. It is hoped that it will serve as a means of enabling the child to gain a clearer insight into the practical activities presented in the following pages than would be possible without a consciousness of the goal toward which they tend. Although this

lesson embodies a great deal of the philosophy of life, it is a philosophy that the child needs and one which he can readily understand when presented in a simple form, and when related to his own experience. Unless it arouses questions from the child it may be passed over somewhat superficially at first, but referred to again and again as occasions for its use present themselves.

Assist the child to get the real thought from the lesson by conversing with him and encouraging him to converse with his parents and friends regarding the way in which they lived when they were children, and the improvements that have been made since then. Find out from what countries the forefathers of the children of the class came originally, and something of the way that they lived before they came to this country. In this way the child will gradually see that what we have, and what we know, we owe largely to the efforts of our forefathers who have lived and worked for many long ages. If you can get the child to gain even a slight appreciation of the privileges that he enjoys, and a respect for honest labor, you will be doing a much-needed work.

This lesson should not be passed without noticing the meaning of these three sentences: "*Each animal knew how to do one thing well. But the people could do a great many things. They could remember, too, what had happened before.*" These three sentences contain the key to man's superiority over the brutes. Man at this time had a mind, but he was only beginning to use it. We have no other ground for thinking ourselves superior to our forefathers, the Tree-dwellers, than this: We live at a time when it is possible to take advantage of what has been accomplished during many long ages. Were we deprived of the opportunities thus presented, we should find it difficult to account for any superiority.

Reference: Katharine E. Dopp, *The Place of Industries in Elementary Education*, pp. 16-24.

Lesson II. The two questions raised serve to show the child that the Tree-dwellers needed some of the things that we need. We feel the need of much that they did not have, but we, as well

as the Tree-dwellers, need food the most of all. Next to food we feel the need of shelter, clothing, and means of protection.

The child is ready to understand that Sharptooth is a woman who differs from women to-day chiefly in the fact that she did not have as good an opportunity to learn. Help him to be alert to see the admirable traits in Sharptooth's character. If he wishes to have her described, tell him that she was shorter and probably more thick-set than women of to-day; that she probably walked with a bend at the knee; that her forehead sloped backward; that her jawbones were large and strong, her chin small, and that probably her hair was a reddish color. These points were omitted from the lesson because they are not regarded as essential, and their introduction might lead to many questions which the teacher ought not to be expected to be able to answer. They are added here as a help to the teacher who may be questioned concerning these points. Should the teacher desire further information on this subject, she will find it in the references given below.

In places where it is impossible for the children to go to an uncultivated place, the teacher may substitute for the suggestions at the close of the lesson other work. But she should in some way give the child an idea of grassy plains, wooded hills, and dense forests. Unless he has such an experience as this he will not be able to deal with the problem of finding a place where the Tree-dwellers might have lived. The teacher's problem at the close of this lesson is the one that constitutes the central thought of the next two lessons. It is this: How can the child get such an experience as will enable him to select a place where the Tree-dwellers might have lived? In these days of cheap transportation. there are few schools where it is not possible for some of the children to visit places that are sufficiently wild to answer the purpose. By making use of such experiences of the children in uncultivated places as they have or they can easily get, and by supplementing these by means of pictures, stories, and sand modeling, very satisfactory results can be obtained.

References: Katharine E. Dopp, *The Place of Industries in Elementary Education*, pp. 18, 19, 126, 127; "Some Steps in the Evolution of Social Occupations," *The Elementary School Teacher*, January, 1903.

Lesson III. The problem of this lesson has already been stated. The questions at the beginning of the lesson serve to help the child to interpret what he has observed, or what has been illustrated to him. The scene of this lesson need not be definitely located in space, for this book is a generalized account of progress, not a description of a particular locality. Should the teacher need assistance in getting a more adequate notion of a river valley, she will do well to read the following references, as well as the chapters on river valleys in any good textbook on geography or physiography.

References: N. S. Shaler, *First Book in Geology*, pp. 1-4; Frye, *Brooks and Brook Basins. Aspects of the Earth*, chapter on "River Valleys."

Winchell, *Walks and Talks in a Geological Field.*

Rollin D. Salisbury and Wallace W. Atwood, *The Geography of the Devil's Lake Region, Wisconsin*, pp. 36-58.*

R. S. Tarr, *Elementary Physical Geography*, pp. 262-82.

Lesson IV. This lesson serves merely to bring out the striking contrasts that the geographical features mentioned in the last lesson present. The child can readily see why it was necessary for Sharptooth to swing from branch to branch instead of walking on the ground.

Lesson V. Although the father was always more or less attached to the primitive group, it was the mother and child that constituted the original family. Not until the development of the patriarchal system in the pastoral stage of culture was the relation of the father recognized as of as great importance as that of the mother.

*NOTE. This pamphlet may be obtained by writing to Professor E. A. Birge, State University, Madison, Wis., and enclosing thirty cents. It is Bulletin No. 5, Educational Series No. 1.

The data from which the part of the story that deals with the way in which Sharptooth carried her baby was constructed was derived from the practices of contemporary tribes in the lowest stages of culture. It is a well-known fact that all young infants during the first few hours after birth possess the power to grasp and to hang suspended by the hands for several minutes.

References: Loria, *Economic Foundations of Society*, p. 87.

Thwing, *The Primitive Family.*

C. N. Starcke, *Primitive Family in its Origin and Development.*

G. L. Gomme, "The Primitive Human Horde," *Journal of the Anthropological Institute*, Vol. XVII., pp. 118-33; "The Evolution of the Family," *Popular Science Monthly*, Vol. XI., p. 257.

Ch. Letourneau, *The Evolution of Marriage and the Family.*

Lesson VI. This lesson is important as marking the beginning of the textile industry. Undoubtedly the motive that prompted the first weaving was the love of the mother for her child, and her desire to keep it safe from harm. The materials were inevitably such as the immediate environment could afford — vines, slender branches, or other fibrous plants. The process at first must have been crude, but savage women very early developed a skill in basketry that we are not able to find among civilized peoples. By encouraging the child to think of the different articles that he uses that were made by weaving, and by examining the beauty of the work, he will be prepared to grasp something of the significance of the simple act of Sharptooth, which was an expression of the same kind of mother love which he enjoys, but which he accepts as a matter of course.

Explain to the child that the Tree-dwellers did not have such music as we have. But mothers as they held their babies in their arms would gently sway back and forth, uttering a soothing sound. The little girls will no doubt enjoy making such a lullaby in their hours of play.

Lesson VII. If no child in the class knows what kind of banks a river has at the drinking-places, and if there is no opportunity to

go to a brook or river to find out, do not state that the banks are low. The fact presented in that way would be almost devoid of meaning. But let the child model a river valley in the sand box or out on the playground showing steep banks in places and in others banks that slope gently. Then let him think of a herd of cattle feeding on the hillsides. The cattle need water. Suppose that they come up to the steep banks. Can they reach the water? How can the cattle get down to the stream? When the cattle have found a good drinking-place will they be apt to come to it again? By means of such questions as these the child can picture the conditions and the relation of living creatures to them. Such knowledge as this means something to him. He need not try to remember it, for it is his.

Give the child plenty of time in reading the short sentences that picture the cattle in the stream to allow him to actually see the different steps in the process. By considering each point by itself, but yet in relation to the preceding step, the child can get a vivid picture. (For information concerning the wild cattle, see *The Urus*, p. 145.)

Lesson VIII. This lesson is introduced to give the child a faint suggestion of the struggle for existence among wild animals. It also suggests something of the dangers to which the Tree-dwellers were exposed. Pass lightly over these dark pictures and emphasize the fact that it was possible even in those times for Sharptooth and her baby to sleep safe from harm. In contrast to this wild life let the children draw pictures that will illustrate the security and comfort of their own homes.

Lesson IX. If possible let the child visit a cave; if not, he may take advantage of the tiny streams that may be seen everywhere after a heavy rain or during the thawing of snow. A careful examination of such a miniature stream will enable the child to get all the experience he needs in order to understand the geographical phase of this lesson.

Do not try to teach the child much more than he can observe

regarding the way in which caves were formed. A much better opportunity to teach him this lesson is presented later.

Ask the child why Sharptooth dipped up the water with her hand. Do not be discouraged if some child thinks that she might have used a tin dipper. It is only by discovering the misconceptions of the child that we are able to correct them.

The language of the Tree-dwellers was probably in a very undeveloped state. That fact is merely suggested in the story.

Lessons X. and XI. The first of these lessons conveys the truth that people have taken many suggestions from animals in order to better their condition in life. This does not imply that man is inferior to the animal, but merely that he is inferior in some one respect, or that he depends less upon instincts and thus has a greater need of training. If the child learns at this early stage that there is no person or no creature too insignificant to teach him something, he will have learned one of the most valuable lessons in life. The child may not be able to tell why the wild hog has lost its tusks, but he will enjoy thinking about it. He can observe or find out in other ways that the domesticated hog no longer has them, and by comparing the difference in the mode of life of the animal in the wild and in the domestic state he can see that the wild hog needed tusks and used them, while the domestic hog of to-day does not have them. Children are so keen in their thought that they can soon get the relation that exists between the use of an organ and the state of its development. This point, introduced here, paves the way for the lesson of the wild horse.

Let the children represent by pantomime the way in which the wild hogs protected their young.

Lesson XII. The only point that is liable to need explanation here is the fact that Sharptooth required Bodo to take care of himself when he was only a child. This can be more easily understood if it is taken into consideration that mothers frequently had another child to take care of at that time, and so of necessity

were obliged to let the older child take care of himself. The fact that Sharptooth took pains to teach Bodo all that she knew, and that she left him only when he was able to take care of himself, justifies the act sufficiently. The slow development of father love is less easy to explain and will not be attempted at this time.

Lesson XIII. Read the general suggestions, pages 133 and 134, before attempting to teach this lesson.

Lesson XIV. Supplement this lesson by facts which the child has observed regarding bees, or by pictures and stories that are almost universally available.

Lesson XV. Wild horses usually associate in large herds sometimes numbering several hundred. This large herd is subdivided into several smaller herds, each of which is led by the handsomest and strongest stallion of the group. The younger and smaller horses keep on the outskirts of the herd.

If the paper animals which the children cut are mounted in groups upon the blackboard or on a large sheet of manilla paper it will greatly add to the vividness of the child's image. (See *The Wild Horse*, p. 146.)

Lessons XVI. and XVII. The fact that we possess the records which reveal the story of the evolution of the wild horse while the complete account of many other species is not yet made, accounts for the frequent allusions to the horse when discussing the history of physical development. Read the suggestions here offered and as much of the suggested reading as possible before teaching this lesson. Notice that the four-toed horse the size of a fox lived not when the Tree-dwellers did, but at a much earlier period. It is not necessary for the child to get a clear conception of the time required for the changes pictured in these lessons. No adult can have a perfect conception of this. But even the child can get an *idea of development, of change*, which will prevent the formation of such static conceptions of life as are still only too prevalent in many of our institutions of learning. (For further information regarding the wild horse, see p. 146.)

Lessons XVIII. and XIX. Before the child is able to use tools, he deals with objects through a direct use of the various organs of his body. No better preparation can be given the child for an intelligent use of tools and machinery than to let him practice a great variety of activities that furnish him with the muscular sensations necessary to interpret the more complex processes.

Encourage the child to collect natural forms in wood, stone, bone, horn, shells, and other materials that may be available, and preserve the best of them, thus forming the nucleus of an industrial museum.

References: Katharine E. Dopp, *The Place of Industries in Elementary Education*, pp. 19-21, 32, 33, 134-140; "Some Steps in the Evolution of Social Occupations," III., *The Elementary School Teacher*, March, 1903.

Lesson XX. The purpose of this lesson is to show the way in which man began the conquest of the animal world. Lead the child to see that it has taken a long time to make the earth a good home for man, and that one reason why we can learn more than the lower races knew is because they spent their time in making the earth a better place in which to live. (See pp. 147–148.)

Lesson XXI. This lesson is based upon well-authenticated facts supplied by Professor Boyd Dawkins. It portrays not merely the intelligence of animals, but man's alertness to take suggestions. It also suggests to the child a relation that exists between him and the larger world to which he is already looking with expectancy. (See *Supplementary Facts*, pp. 142–144, for information regarding the rhinoceros, the mammoth, and the sabre-toothed felis.)

Lesson XXII. This lesson, together with the two following, in which the probable method of subduing fire is portrayed, marks the climax of interest in the story of the Tree-dwellers. No greater conquest has ever been made. In writing of this subject, Mr. Geiger says: "And if we admire in genius not only superior intellectual endowment but the boldness of attempting to think of what has never been thought of by any one before, and to undertake

what has never been done before, it was surely an act of genius when man approached the dreaded glow, when he bore the flame before him over the earth on the top of the ignited log of wood —an act of daring without a prototype in the animal world, and in its consequences for the development of human culture truly immeasurable."

Only the first step in the conquest of fire is portrayed in this lesson. That is *fear*.

References: Mason, *Origins of Invention*, Chapter III.

Katharine E. Dopp, *The Place of Industries in Elementary Education*, pp. 22–24.

Lesson XXIII. This lesson shows how man, first through fear and then through the desire to make friends with the dreaded object in order to secure its protection, subdued fire. Its significance with reference to social life is portrayed in this and in the following lessons.

Lesson XXIV. The purpose of this lesson is to enable the child to see the way in which simple societies were formed, the necessity for the division of labor, and an early, if not the earliest, form of worship. This lesson also illustrates a step in advance in the development of the primitive family.

Lesson XXV. This lesson illustrates the first efforts of man to make a shelter. Previous to this he was protected by such shelters as nature afforded. Now he begins to adapt nature's gifts to his own needs. The construction of the rude shelter illustrates what is probably the second step in the evolution of the textile arts, the first being the weaving of a cradle. In both cases the motive was undoubtedly the desire on the part of the mother to protect her child.

Lesson XXVI. The suggestions in this lesson, together with those under *Basketry*, pp. 138–139, are probably all that are required.

Lesson XXVII. Let the child suggest other uses to which fire might have been put than those named here. Let him also suggest other ways in which food might have been cooked accidentally.

Encourage him to make a connected story which will embody what he has thought. Lead him to discover some of the advantages that arise from the use of cooked food.

Reference: Katharine E. Dopp, "Some Steps in the Evolution of Social Occupations," III., IV., *The Elementary School Teacher*, March and April, 1903.

Lesson XXVIII. The purpose of this lesson is to supply an experience that will pave the way to an understanding of coöperative action.

Lesson XXIX. This lesson illustrates the way in which leisure hours were used so as to secure not merely recreation, but a training for the serious activities of life. The child will readily appreciate the significance of the primitive dance, for it is closely related to his own spontaneous play.

Reference: Katharine E. Dopp, *The Place of Industries in Elementary Education*, pp. 25-34.

Lesson XXX. This lesson explains one very important reason for wearing ornaments. The child's instinctive love of ornaments may be utilized to train him in habits of industry just as easily as the same process took place in the development of the race. Really beautiful necklaces and bracelets may be made by children, if they take pains in stringing seeds of various sorts in such alternations as to give pleasing effects. It is worth the while to encourage the child to see the beautiful in nature and to train him to adapt nature's forms so as to secure still more pleasing effects.

Reference: Katharine E. Dopp, *The Place of Industries in Elementary Education*, pp. 25, 27, 115.

Lessons XXXI. and XXXII. These lessons serve the purpose of making the transition from the mild, equable climate which characterized the early part of the mid-Pleistocene period to the colder climate of the later part of the period. The early part is the age which is characterized in this book. The later part will be treated in the next book. (For information regarding the animals referred to, see *Supplementary Facts*, pp. 143 and 146.)

Lesson XXXIII. This lesson is intended to still further satisfy the child regarding the questions which will probably arise in his mind from the first, and which were partially satisfied then. The attempt has been made in all cases where it has seemed possible, to speak frankly and directly to the child. Had the aim been merely to please him, to excite him by dramatic stories, it could have been done in a much easier way. The simple and plain statements of fact have been made so as to enable the child to *understand.* The suggested activities, together with other normal forms of work and play, furnish sufficiently rich emotional reactions. In the light of the racial experiences embodied in the stories, these emotional reactions maintain their normal function as the most powerful factor in the education of the child.

Industrial and Social History Series

By KATHARINE ELIZABETH DOPP, Ph. D.
The Extension Division of the University of Chicago

ANNOUNCEMENT

THIS series is designed to bring to elementary education certain material which has hitherto remained quite untouched. The child's boundless energy, as manifest in play, is a familiar matter of observation. The direction of this energy, so as to secure educative results, has long been discussed by educational thinkers. The actual use of this energy in the work of the school is only beginning to be made. The delay in the application of this powerful educational force is due more to the fact that suitable materials for its employment have not yet been rendered available, than to the failure to appreciate the real nature of the child.

The purpose of this series is to render available for general use subject-matter which readily lends itself to those forms of practical activity which are seeking expression in the child, and which at the same time represents social experience of a fundamental character. This subject-matter, which includes the most significant steps in the early development of our industrial and social institutions, is not only so closely related to the child's experience as to be readily appreciated and controlled by him, but it is of profound significance as a means of interpreting the complex life of the present.

In order to meet the needs of the undeveloped child the materials used are selected from the early life of Aryan peoples, rather than from the life of those contemporary tribes which represent an arrested development. The material selected is so graded as to furnish the child with a series of problems which fulfill as vital a function in his development as they originally fulfilled in the evolution of the race. By presenting subject-matter which calls forth a great variety of simple yet fundamental activities, the series offers a solution to the most difficult problem that is to-day engaging the attention of those interested in elementary education — that of organizing the content studies of the curriculum with reference to manual training, constructive work, and social occupations of various kinds.

See next page for volumes in this series.

Industrial and Social History Series

By KATHARINE ELIZABETH DOPP, Ph. D.
The Extension Division of the University of Chicago

WHAT THE BOOKS ARE

Book I. THE TREE-DWELLERS. The Age of Fear.

Illustrated with a map, 15 full-page and 60 text drawings in half-tone by Howard V. Brown. Cloth, square 12mo, 160 pages; .... cents. For the primary grades. (Just issued.)

THIS volume makes clear to the child how people lived before they had fire, how and why they conquered it, and the changes wrought in society by its use. The simple activities of gathering food, of weaving, building, taming fire, making use of the body for tools and weapons, wearing trophies, and securing coöperative action by means of rhythmic dances, are here shown to be the simple forms of processes which still minister to our daily needs.

Book II. THE EARLY CAVE-MEN. The Age of Combat.

Illustrated with 75 drawings in half-tone by Howard V. Brown. Cloth, square 12mo, 174 pages; .... cents. For the primary grades. (In press.)

IN this volume the child is helped to realize that it is not only necessary to know how to use fire, but to know how to make it. Protection from the cold winters, which characterize the age described, is sought first in caves; but fire is a necessary means of defending the caves. The serious condition to which the cave-men are reduced by the loss of fire during the time of a flood is shown to be the motive which prompts them to hold a council; to send men to the fire country; to make improvements in clothing, in devices for carrying, and in tools and weapons; and, finally, to the discovery of a way of making fire.

Book III. THE LATER CAVE-MEN. The Age of the Chase.

For the primary grades. (In preparation.)

HERE is portrayed the influence of man's presence upon wild animals. Man's fear which, with the conquest of fire, gave way to courage, has resulted in his mastery of many mechanical appliances and in the development of social coöperation, which so increases his power as to make him an object of fear to the wild animals. Since the wild animals now try to escape from man's presence, there is a greater demand made upon man's ingenuity than ever before in supplying his daily food. The way in which man's cunning finds expression in traps, pitfalls, and in the evolution of the bow and arrow, and finally in a remarkable manifestation of art, is made evident in these pages.

Book IV. THE TENT-DWELLERS. The Early Fishing Men.

For the primary grades. (In preparation.)

THE life of fishing people upon the seashore presents a pleasing contrast to the life of the hunters on the wooded hills depicted in the previous volumes. The resources of the natural environment, the early steps in the evolution of the various modes of catching fish, of manufacturing fishing tackle, boats, and other necessary appliances; the invention of devices for capturing birds; the domestication of the dog and the consequent changes in methods of hunting, the social coöperation involved in manufacturing and in expeditions on the deep seas, are subjects which are to be included in this volume.

Later volumes will deal with the early steps in the development of pastoral and agricultural life, the changes wrought by the discovery and use of metals, and the first steps in the evolution of travel, trade, and transportation.

Write us a letter of inquiry and receive in reply our new circulars and a letter of information regarding these books.

RAND, McNALLY & COMPANY
EDUCATIONAL PUBLISHERS
CHICAGO NEW YORK LONDON

To avoid fine, this book should be returned on
or before the date last stamped below

10M—9-39

Dopp, D.E. 72633
The tree-dwellers.

DATE NAME DATE

LIBRARY, SCHOOL OF EDUCATION, STANFORD

913.2
D692
v.1
cop. 2